TECHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

A Penton Publication

May, 1954

Volume 19—Number 5

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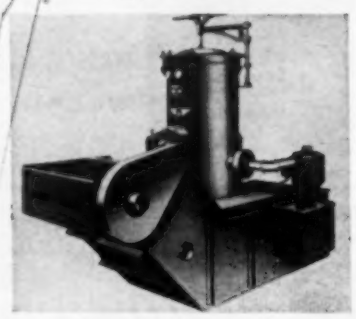
DETROIT

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

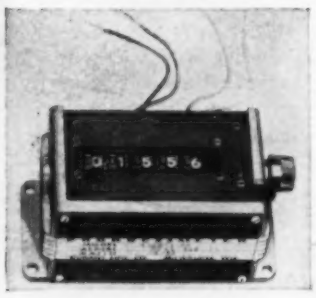
COOLANT FILTERING SYSTEM
models have 20 to 40 gpm flow rates



Three-phase filtering system for mineral cutting oils and water soluble coolants is made in three models with flow rates from 20 to 40 gpm. Contaminated oil enters a tank where heavy solids settle to the bottom, then passes over a magnetic plate to remove ferrous particles. Final phase is performed by a full-flow throw-away cartridge type filter which removes remaining fine particles. Magna-Flomaster system is used where metallic and grit particles are relatively small. Separator tank is self-cleaning, a pair of endless conveyor chains with scrapers removing the accumulation of particles. Made by **United States Hoffman Machinery Corp.**, 219-A Lamson St., Syracuse 6, N. Y.

▲ For more details circle **NED-1 E4** on enclosed inquiry slip ▲

ELECTRIC COUNTER
stops production at desired count



Electrically operated model 5-SP-1-MF predetermined counter can be set at any required number from 0 to 99,999 in the five figure model or from 0 to 9,999 in the four-figure model to stop production after desired count of completed operations. Counter is enclosed for protection against dirt and moisture, and has hinged cover for access to the setting wheels. Maximum operating speed is 600 counts per minute. Switch is rated 5 amp at 125 or 250-v ac. Standard and special voltages are available. Made by **Durant Mfg. Co.**, 1922 N. Buffum St., Milwaukee 1, Wis.

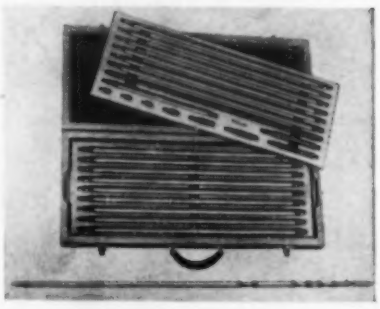
▲ For more details circle **NED-2 E4** on enclosed inquiry slip ▲

PRODUCTION LINE ELEVATORS
have solenoid operated selectors

Solenoid operated selectors on Weld-Bilt automatic production line elevator units allow adjusting them to accept or pass by parts or packages according to weight or size. Units fit into new or existing assembly lines. Elevator can be set to accept cartons, either empty or filled, at lower level and raise them to higher level. There, power rollers move loaded cartons forward and send empties back to packaging line. Similarly, unit may operate to let empties pass by and lift only loaded cartons from lower level. Operation can be in reverse—carrying materials in descending route as well as ascending. Made by **West Bend Equipment Corp.**, 329 Water St., West Bend, Wis.

▲ For more details circle **NED-3 E4** on enclosed inquiry slip ▲

INSIDE MICROMETER
accurate at lengths up to 30 ft



Special micrometer head and 25 extensions permit this inside micrometer to be used for accurately measuring distances of 6 to 30 ft. Each extension is calibrated to the nearest 0.0001 - in. Entire set is packaged in a carrying case. Available on special order from **Brown & Sharpe Mfg. Co.**, Dept. 43, Providence 1, R. I.

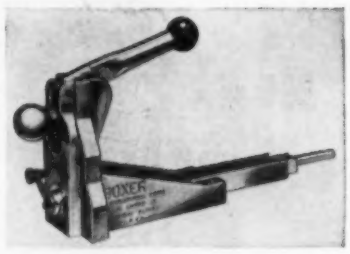
▲ For more details circle **NED-4 E4** on enclosed inquiry slip ▲

SELF-LOCKING NUTS
for high temperature applications

Temperatures up to 1200° F do not affect performance of Flexloc series 99F12 self-locking nuts. They are machined from AMS - 5642 stainless steel and retain full locking strength at elevated temperatures. Silver plating eliminates galling and thread seisure. Nuts conform to military specification MIL-N-7873 and are made in seven sizes with No. 10 through 9/16-in. diameters and National Fine threads. Made by **Standard Pressed Steel Co.**, P. O. Box 581, Jenkintown, Pa.

▲ For more details circle **NED-5 E4** on enclosed inquiry slip ▲

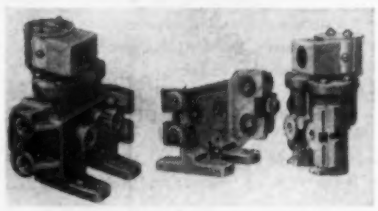
CARTON CLOSER
portable stapler weighs 5 lb 5 oz



Retractable anvil principle employed by the Boxer model carton closer permits stapling from the outside after the carton is filled. Tool measures 16½ x 7 x 4¼ in., weighs 5 lb 5 oz and is made of cast aluminum. It has a wider stapling face than previous model for firm contact with carton before stapling. This model meets freight, post office and overseas closing standards. Made by **International Staple & Machine Co.**, 802 E. Herrin St., Herrin, Ill.

▲ For more details circle **NED-6 E4** on enclosed inquiry slip ▲

FOUR-WAY VALVES
pilot operated solenoid type



Air, light oil and water at pressures up to 150 psi can be handled by Crescent pilot operated, solenoid controlled four-way valves. They are easily replaced by loosening three holding clamp bolts to remove the entire valve body. Sub-base on which body is mounted remains undisturbed as a permanent part of the piping. Made by **Barksdale Valves**, Dept. NED, 5125 Alcoa Ave., Los Angeles 58, Calif.

▲ For more details circle **NED-7 E4** on enclosed inquiry slip ▲

SOLENOID OPERATED PUNCH
impact adjustable up to 3500 lb

Uniform impacts, adjustable from a few ounces to 3500 lb, can be delivered at rates up to 125 blows per minute by the solenoid operated model F Electropunch. Open back C-frame permits use with hopper or automatic feed. Tool can be used for staking, marking, swaging, punching and other operations and operates on 115 v ac. It features interchangeable tooling with inexpensive tool blanks. Hand, foot or automatic switching can be used. Electropunch is offered with 2000 and 3500-lb impact ratings. Made by **Black & Webster, Inc.**, Dept. N26, 445 Watertown St., Newton 58, Mass.

▲ For more details circle **NED-8 E4** on enclosed inquiry slip ▲

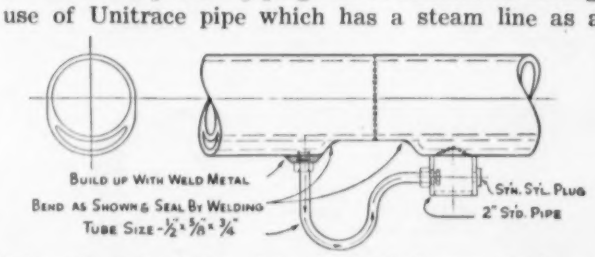
PIPE THREADING DEVICE
has handwheel operated chuck

Portable power drive for threading, cutting and reaming pipe with hand tools is now fitted with a handwheel operated Speed-Grip chuck. Grip-tooth type jaws are closed lightly on work by handwheel, socked lightly, and motor action then exerts full gripping force. Chuck holds work firmly in both forward and reverse rotation and is easily loosened by handwheel. Model 400A power drive handles ⅛ to 2 in. pipe and ¼ to 2 in. bolts and can be used with geared tools up to 12 in. Made by **Ridge Tool Co.**, 125 Ridge Rd., Elyria, O.

▲ For more details circle **NED-9 E4** on enclosed inquiry slip ▲

STEAM HEATED PIPE
for moving sluggish fluids

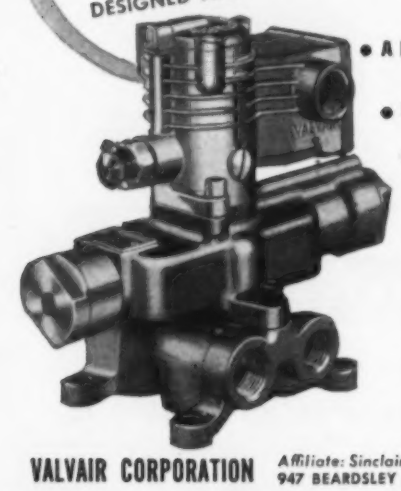
Solidification and crystallization of sluggish fluids in transfer and process piping can be eliminated through use of Unitrace pipe which has a steam line as an



integral part of the pipe. Extruded as a single unit from Alcoa 3S-F aluminum alloy, the pipe is slightly oval in cross section because of the crescent-shaped steam passage (see diagram). Size now available has dimensions of 2-in. schedule 40 pipe. Insulation for standard 2½-in. pipe will form naturally over this size. Pipe lends itself readily to shop fabrication of standard lengths and can be easily formed with conduit tools. Illustration shows typical method of connecting pipeline and steam passage sections. Made by **Aluminum Co. of America**, 720 Alcoa Bldg., Pittsburgh 19, Pa.

▲ For more details circle **NED-10 E4** on enclosed inquiry slip ▲

SPEED KING
SOLENOID PILOT OPERATED CONTROL VALVE
by VALVAIR
DESIGNED AND BUILT TO J. I. C. STANDARDS



- A Hefty Assist to Automation
- Fully Enclosed
- Integral Junction Box

Get 20,000,000-cycle life and more with Speed King, industry's most rugged and compact control valve. 2-way, 3-way, 4-way and 4-way-5-port (2-pressure) models for pneumatic, hydraulic and vacuum service; pipe sizes—¼" through 1".

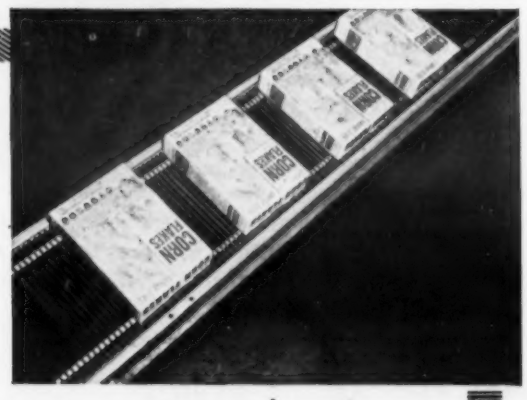
VALVAIR CORPORATION Affiliate: Sinclair-Collins Valve Company 947 BEARDSLEY AVE., AKRON 11, OHIO

Rely Upon Valvair DIVERSATILITY

ASK FOR BULLETIN "N-5"

▲ For more details circle NED-11 E4 on enclosed inquiry slip ▲

USP WENDWAY



Automatic answer to your "LIGHT PRODUCT" conveying problems!

If you have a light package, 20 lbs. or less . . . if you must move it smoothly, efficiently, from one process to the next...or if you want an automatic selective conveyor system to do the job dependably and at a constant savings in time and manpower . . . then Wendway is for you!

Wendway specializes in moving light goods swiftly, quietly and safely anywhere in your plant. Standardized, self-powered sections of Wendway can be installed virtually anywhere—overhead or in multiple tiers to save your floor space. Wendway will pass through walls, go upstairs or down...around obstructions. So...whether your problem is assembly, processing, packing, order picking or inspection, you'll find Wendway pays for itself from the day it's installed.

Packaging or assembly operations can be synchronized to production, thanks to Wendway's variable speed control. Here, fancy suits are "Wendwayed" from bag loaders through a series of stapling machines and on to shipping boxes.

Overhead cooling for cooked or heated products saves you time and floor space. Wendway takes 'em up, cools 'em off and brings 'em down, ready for further processing. Individual gear-head motors can be remote controlled to give you complete automatic operation.

Loading operations get a big boost with selective Wendway tiers reaching exactly the areas you want, where you want them, from any part of your plant. Versatility of standardized sections keeps installation costs low, maintenance costs lower.

Wendway's special steel wire belting rides smoothly over powdered iron sprockets mounted on sturdy steel shafting. Can not slip or run out of line. Easy to clean and keep clean.

Belt track and channel of heavy-gauge steel, galvanized for longer life and appearance. Exclusive pure Nylon belt guides and bearing strips for quiet, friction-free operation.

Detailed information on Wendway available on request. USP Conveyor Engineers are also at your disposal.

UNION STEEL PRODUCTS CO.
ALBION, MICHIGAN

▲ For more details circle NED-12 E4 on enclosed inquiry slip ▲

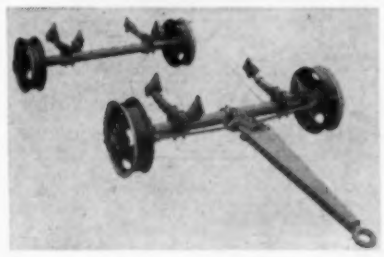
An Opened Door

There is every evidence that we are entering into one of the most active periods of intensive selling that this country has ever seen. Literally thousands of wholly new or radically redesigned products are being made available to progressive industrial plants as a means of reducing costs, increasing production, improving working conditions or minimizing maintenance. Well-trained, intelligent and aggressive sales forces are being used to explain the potential advantages of the products and services being offered by manufacturers. Alert plant executives are seeking new ways to improve the production facilities and techniques of their plants.

The role played by NEW EQUIPMENT DIGEST in this picture is simply that of calling a product or service to the attention of a potential user and then passing the user's request for further information on to the manufacturer so that his sales force can take over. It sounds simple, but it works.

A. N. Gregg
EDITOR

AXLE ASSEMBLY for 7700-lb single axle loads



Heavy mobile industrial equipment can be mounted on this Caravan axle assembly which has a capacity of 7700 lb on a single axle or 15,400 lb on four-wheel assemblies. Unit features automotive steering and controlled camber, toe-in and caster for positive trail at high speeds, regardless of road or terrain. A 4-in. heavy-walled seamless steel tube is used for both the front steering axle assembly and the rear axle beam. The 2½-in. springs are saddle mounted for heavy load stability. Warner electric or mechanical brakes can be installed. Made by **United Mfg. Co.**, 10 W. Interstate St., Bedford, O.

▲ For more details circle NED-13 E4 on enclosed inquiry slip ▲

DO YOU KNOW? Nearly a million dollars worth of the latest in office machinery, equipment, furniture, systems and supplies will be featured at the 1954 NOMA Office Machinery and Equipment Exposition in Kiel Auditorium, St. Louis, May 24 through 27, 1954. A concurrent program of office management sessions and panel discussions will be staged with leading business and management experts participating.

▲ For more details circle NED-14 E4 on enclosed inquiry slip ▲

New! Incomparable!

dyna-trol
ELECTRIC FURNACES

COMPARE THESE FEATURES

- Infinite Zone Control to 2000° and 2300°F
- Zone temperature indication by Pyrometer Selector Switch
- Porcelain Element Holders
- Automatic Hold and Cut-off instrument available
- Infinite Variety of Time-Temperature Curves Obtainable
- Rugged Construction. Highest quality insulation used.

COMPARE THESE PRICES

Firing chamber (H. W. D.)	Semi-Auto. prices	Auto. prices
6"x12"x12"	$295.	$432.
12"x12"x12"	$405.	$550.
9"x 9"x18"	$480.	$625.
14"x14"x14"	$525.	$680.
20"x20"x20"	$975.	$1140.
18"x18"x36"	$1125.	$1375.
(To 2000° Maximum Temp.)		

Over 40 Standard Models — Write for complete literature

L&L INDUSTRIAL DIVISION MANUFACTURING CO.
Chester 6, Pa.

Some Territories Available For Representation

▲ For more details circle NED-15 E4 on enclosed inquiry slip ▲

#10535 SOLDERING UNIT #105-B2 500 WATTS #105-C1 1000 WATTS

STANDARD HANDPIECE
HEAVY DUTY HANDPIECE
PENCIL HANDPIECE
"PLIERS" HANDPIECE

COMPLETE LINE
RESISTANCE SOLDERING DEVICES

Production engineers recognize the resistance soldering principle as a practical answer to heavy duty and production-line soldering problems. Initial costs are offset by immediate savings in time, material, and from increased production and efficiency. When confronted by production-line soldering problems, consider employing resistance soldering in your plant!

- faster—production increased 3 to 5 times
- economical—no wasted solder, flux or power
- safe—no burn, shock or visual arc hazard
- efficient—instantaneous, controlled heat for all types of soldered joints

for complete details, write
WASSCO ELECTRIC PRODUCTS CORP.
DEPT. 1 • 126 W. CASS ST. • JOLIET, ILLINOIS

▲ For more details circle NED-16 E4 on enclosed inquiry slip ▲

Equal power with fewer belts . . .
NEW BROWNING SUPER GRIPBELTS

Oil proof . . . non-spark . . . heat-resistant

Illustration shows how 20 Browning Super Gripbelts can deliver same power as 30 standard belts, saving space and reducing sheave cost. Improved synthetic cord construction provides far greater strength and safety margin, better grip, less slip. Minimum stretch, maximum flexibility, simplified matching.

Ask your Browning distributor or write us for Bulletin 2019.

Browning MANUFACTURING COMPANY
MAYSVILLE, KENTUCKY

▲ For more details circle NED-17 E4 on enclosed inquiry slip ▲

MAKE YOUR OWN CRANE...
...at a NEW LOW COST!

Handle loads up to 2000 lbs., SAFELY,
easily . . . Buy crane beam locally — we furnish the rest . . . A pair of self-aligning, ball bearing Flexo-Crane trucks cost only $119.00
Simple instructions come with shipment.

Complete Flexo-Crane, with hoist and accessories, is also economically priced. To get full details, ask for — BULLETIN F-132

The Abell-Howe Line includes a wide range of overhead cranes monorails, hoists and accessories.

ABELL-HOWE COMPANY 53 W. JACKSON BLVD. CHICAGO 4, ILL.

▲ For more details circle NED-18 E4 on enclosed inquiry slip ▲

IMMEDIATE SHIPMENT

STYLE 900D STACKING BOX

- Reinforced Corners
- Drop Handle Back of Bin
- Spotwelded Construction
- Four Rivets for Extra Strength
- Continuous Stacking Rim all Four Sides
- Stacks with style 800D Stacking Box of same length and width.

OTHER SIZES AND STYLES AVAILABLE
Complete Shop Box and Shop Equipment
Catalog and Discounts on request.

Product Number	Width	Length	Height	Gauge Steel	Price Plain	Price Green
901D–18	10"	16"	6"	18	2.56	2.78
902D–18	12"	18"	8"	18	3.10	3.40
903D–18	12"	18"	6"	18	2.78	3.06
904D–18	10"	20"	8"	18	2.94	3.24
905D–18	10"	18"	6"	18	2.67	2.92
902D–16	12"	18"	8"	16	3.43	3.73
904D–16	10"	20"	8"	16	3.25	3.55

PHONE • WIRE • WRITE
Baldwin 9-1805

BAY PRODUCTS INC.

3009 N. 16TH ST., PHILADELPHIA 32, PA.

For more details circle NED-19 E4 on enclosed inquiry slip

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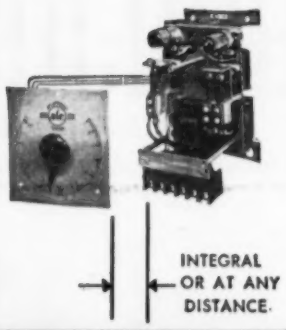
high repeat accuracy

unaffected by tube age, voltage or temperature variations



For intervals from .02 to 30 sec., the "Atcotronic" Timer provides precise control of machine and process operations.

Compact design requires little panel space. The absence of moving parts assures dependable, trouble-free operation.

Two types, nine enclosure styles, four load actions. Most models in stock. For complete data, write for Bulletin N-90. Automatic Temperature Control Co., Inc., 5225 Pulaski Ave. Phila. 44, Pa.

atc®

ELECTRONIC TIMERS

For more details circle NED-20 E4 on enclosed inquiry slip

FOR DESIGNS THAT REQUIRE ADJUSTABLE A-C VOLTAGE

You can choose from a complete standard line of Powerstat variable transformers. Units are offered in manually-operated and motor-driven assemblies for 120, 240 and 480 volt duty in capacities from 150 VA to 100 KVA.

POWERSTAT TYPE 136

In many applications where you might usually use a rheostat, *investigate Powerstat variable transformer to do a better job* — and you can get a Powerstat for as little as $8.50.

You'll find Powerstats are superior. Their dimensional and physical characteristics make them easier to "design into" a product. Their conservative ratings, smooth operation and long life make them a "plus" feature of value.

For the best in continuously-adjustable voltage control use variable transformers. For the best in variable transformers always specify POWERSTATS.

Be sure to see Superior Electric's Mobile Display when it visits your area.

The SUPERIOR ELECTRIC Company
1805 Clarke Avenue, Bristol, Conn.

For more details circle NED-21 E4 on enclosed inquiry slip

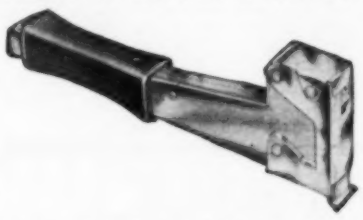
ACOUSTIC TELEPHONE BOOTH is doorless for noisy locations

Compactness of model 45 doorless acoustic type telephone booth together with its geometric design permits space saving arrangements against a wall, in corners, or as a circular island. Tests in noisy locations shows that unit reduces sound interference by approximately 50 per cent. Metal booth is attractively finished. Made by **Burgess-Manning Co.,** Architectural Products Div., 5970-C Northwest Highway, Chicago 31, Ill.

For more details circle NED-22 E4 on enclosed inquiry slip

HEAVY DUTY TACKER designed for one-hand operation

Heavy tacking jobs can be performed by the HT-50 automatic hammer tacker which drives No. T-50 staples of 0.050-in. carbon steel wire. Tool can be operated by one hand and has hardened steel working parts with a shatterproof handle. Its 2½-lb weight is sufficient to drive staples up to ½-in. long. Loads of 100 staples with ¼, ⅜ and ½-in. leg lengths can be accommodated. Made by **Arrow Fastener Co.,** 8 Junius St., Brooklyn 12, N. Y.



For more details circle NED-23 E4 on enclosed inquiry slip

ELECTRONIC CRANE SCALE made in capacities up to 200,000 lb

Accurate weighing for any type of load while it is being handled is provided by the Hook-a-Weight electronic crane scale. Weight is brought to bear directly upon a load cell built into the load block. An electric signal is transmitted through a cable and brushless type cable reel to the recording instrument which may be of visual or recording type. Latter unit is mounted in the crane cab or other location. Scale can be used on any crane and is available in capacities up to 200,000 lb. Made by **Harnischfeger Corp.,** Overhead Crane Div., 4537 W. National Ave., Milwaukee 46, Wis.

For more details circle NED-24 E4 on enclosed inquiry slip

... the remote controlled "Lo-Hite" Hydraulic Jack with detached independent pump (note fig. 1 above) is a natural because the ram, only 4½ inches high (note fig. 2) fits in places where a jack handle cannot be used. Connected by 8 feet of strong rubber hose, it can safely and quickly move 30 tons, 2 inches in any direction.

Ask your local distributor for the versatile "Lo-Hite" (No. 30-H-4.5) or write the world's oldest and largest manufacturer of lifting jacks for Bulletin AD32-N and name of nearest distributor, The Duff-Norton Manufacturing Co., P. O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

DUFF-NORTON JACKS

"Giving Industry a Lift Since 1883"

For more details circle NED-25 E4 on enclosed inquiry slip

For *Real* Economy

Do ALL Your Cleaning Jobs with ONE Cleaner

The IDEAL STANDARD CLEANER

The ALL-PURPOSE Combination Unit
1⅓ H.P. or ⅔ H.P.

A "tank-type" cleaner—VACUUMS lint, dirt, dust, scrap and *picks up water.* Has dust-tight bag and 12-gal. tank. Power unit also serves as blower, sprayer or "hand-type" vacuum cleaner. Attachments for every use.

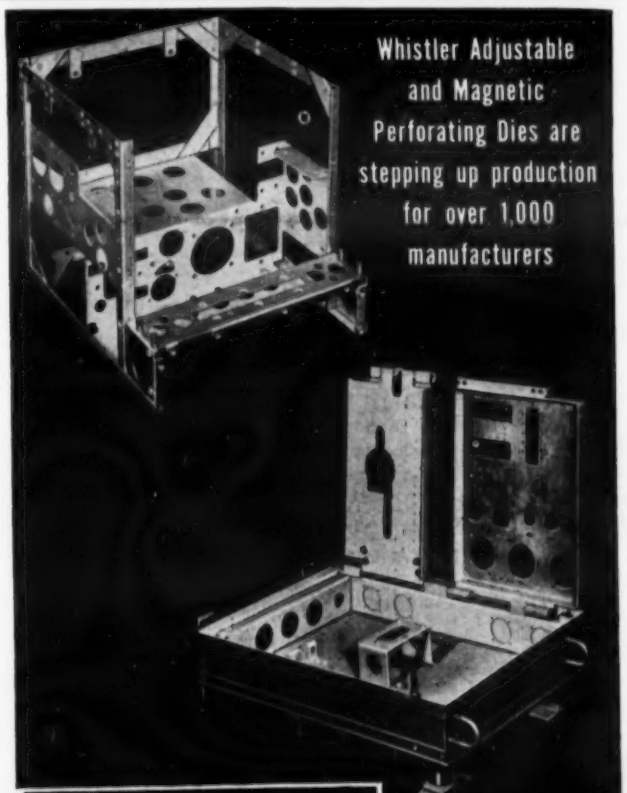
A "TANK-TYPE"—
A "HAND-TYPE"—
AND A BLOWER
. . . ALL IN ONE
INSTANTLY
CONVERTIBLE UNIT

TRY IT FREE!

Sold through Leading Distributors

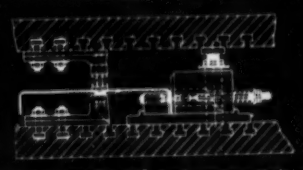
IDEAL INDUSTRIES, Inc.
1032 Park Avenue, Sycamore, Illinois
Please give us FREE DEMONSTRATION of the IDEAL Standard Cleaner in our plant.
Name.....
Company.....
Address.....
City.....Zone....State.....

For more details circle NED-26 E4 on enclosed inquiry slip



Whistler Adjustable and Magnetic Perforating Dies are stepping up production for over 1,000 manufacturers

Simplify Complicated Piercing Operations



Use this HU-50 90° Perforating Unit on the same job with other Whistler Dies ...often saves extra press operations.

USE WHISTLER Adjustable and Magnetic Dies for perforating, notching and slotting sheet metals... fast, accurate and cost cutting. Complicated patterns can be set up quickly. Hole arrangements can be changed in the press...without waiting and at no extra die cost. New HU-50 units, that pierce at 90° angle, can be used in conjunction with standard perforating equipment. Fewer press operations are necessary.

Re-use the same dies in different arrangements on many jobs. Punches and dies are interchangeable.

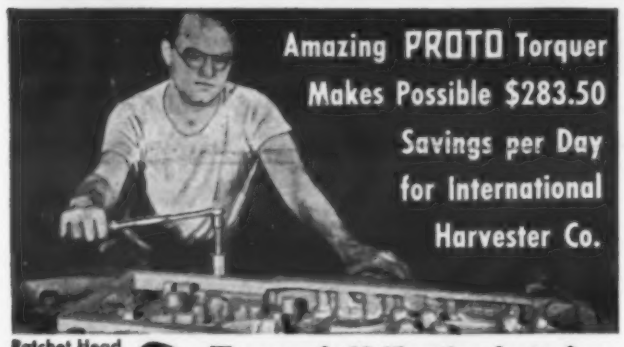
Whistler Adjustable Dies can be used in practically every type press. Standard sizes and shapes of punches and dies available up to 3 inches. Special sizes and shapes to order.

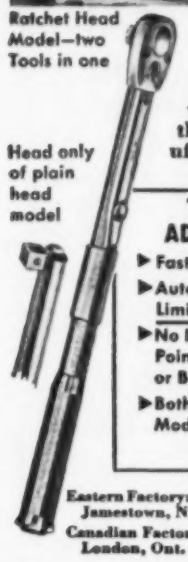
S. B. WHISTLER & SONS, INC.

750 Military Road
Buffalo 23, N. Y.

For prices and application data on this modern way to speed production and cut unit costs, write for these illustrated Whistler catalogs.

For more details circle NED-27 E4 on enclosed inquiry slip





Warpage of a 89.45 casting, due to clamp overtightening in a milling operation, was charged with 25 to 30 rejects daily at International Harvester Company, Louisville Works. PROTO Torquers eliminated this problem entirely... Other leading manufacturers are also effecting huge savings with this revolutionary tool. Ask your PROTO dealer for a demonstration. Send 10¢ for 68-page catalog to

PLOMB TOOL COMPANY

2275L Santa Fe Ave., Los Angeles 54, Calif.

TORQUER ADVANTAGES
- Fastest in World
- Automatic Torque-Limiting Release
- No Dials, Scales or Pointers To Watch or Break
- Both In-Lb. & Ft.-Lb. Models

5482

PROTO TOOLS
PROTO means PROfessional TOols

Eastern Factory: Jamestown, N.Y.
Canadian Factory: London, Ont.

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NEW EQUIPMENT DIGEST

EQUIPMENT · MATERIALS · PROCESSES · DESIGNS · APPLICATIONS · LITERATURE

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for leak-proof face-to-face sealing

it's the Dyna-seal® by PRECISION

Thoroughly proved sealing by a resilient synthetic rubber, flared component bonded to the inner circumference of a steel washer. Ideal for sealing bolt heads, rivets, flanges, circular flat surfaces—no groove necessary. Seals water, petroleum products, fluids and gases, all pressures.

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PORTABLE DRILLING UNIT completely automatic in operation

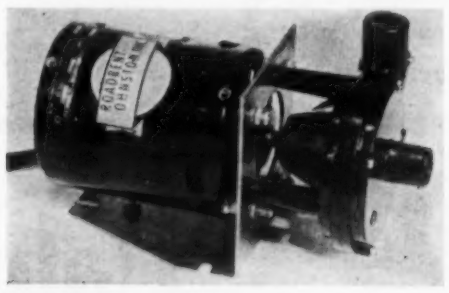
Touch of control valve on self-contained series 92A Airfeedrill enables it to automatically advance, drill under controlled conditions, retract and shut itself off in an automatic sequence. Sensing type advance moves the drill quickly to the work, then shifts to a preset drilling feed. In skip drilling, the drill returns to rapid advance after each break-through. Provision for automatic peck-drilling is also provided. Speed of air motor can be adjusted over a wide range while maintaining full thrust. Jacobs chuck, Morse taper adapters or stationary mounting adapters are available. Three basic drill unit sizes and 14 models with speeds from 250 to 15,000 rpm and strokes from 2 to 7 in. are offered. Made by **Keller Tool Co.**, Dept. N, Grand Haven, Mich.

▲ For more details circle NED-31 E4 on enclosed inquiry slip ▲

BRO-JO CENTRIFUGAL PLASTIC PUMPS

OUTSTANDING PUMPS for

Dispensing Machines, Refrigeration, Machine Tools, Photographic Processes, Optical Grinding



BRO-JO pumps are molded from a thermosetting plastic which is formulated for extreme chemical resistance and low water absorption. The molded parts have a hard, gloss finish, which resists abrasion and reduces friction loss to a minimum. It also eliminates danger from liming or clogging, as hard water alkalines will not build up on the plastic.

Write or Wire for Specification Literature

BROADBENT-JOHNSTON, Inc. 6845 E. Compton Blvd. Compton 2, Calif.

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FIT THE HEAT TO YOUR WORK

Chromalox Electric Tubular Heaters are available in straight lengths or they may be curved and formed to fit your exact specifications. They provide accurately controlled, economical and dependable convection, conduction or radiant heat. Use them for dies, molds, platens; as immersion heaters in liquids, soft metal and molten salts; or in ovens, air ducts and other air heating applications. Consult Chromalox now for all your production heating needs.

For Full Details

Write for Catalog 50. It lists Chromalox Tubular Heater sizes, types and ratings; sheath materials, fittings and special shapes.

IB-30

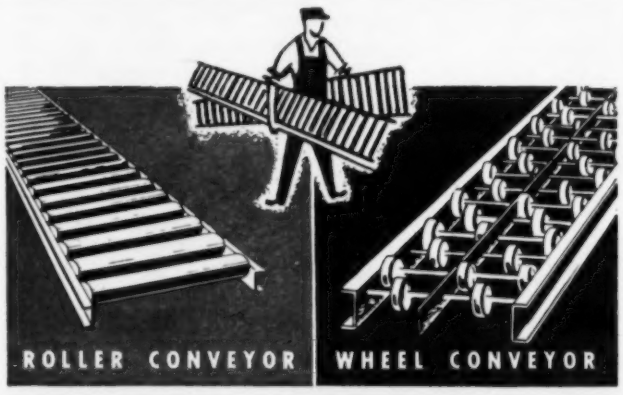
Industrial Div., EDWIN L. WIEGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.

See other ad on pg. 79

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ For more details circle NED-30 E4 on enclosed inquiry slip ▲



"light-as-a-feather"

ALUMINUM conveyors

—have many advantages: *Light weight, easy-to-handle, easy to assemble.* Ideal where portable conveyors are desired.

Aluminum ROLLER Conveyor, available in several roll sizes, in lengths and roll spacing as required. Stock materials and parts permit quick shipment on made-to-order basis.

Aluminum WHEEL Conveyor, carried in stock complete for immediate shipment. In 12" or 18" widths with 10 wheels per foot.

Write for further information.

Logan Conveyors

LOGAN CO., 215 CABEL ST., LOUISVILLE, KY.

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WHEN LIGHTS GO OUT EXIDE® LIGHTGUARDS® GO ON INSTANTLY...AUTOMATICALLY!

NEW MODEL M

Whenever normal lighting is interrupted—no matter what the reason—you get adequate emergency lighting INSTANTLY. Your customers and employees are safeguarded against injuries; property damage, pilferage, loss of process control is minimized. Exide Lightguards are UL-approved and can be plugged in anywhere. Operates instantly—each lamp illuminates up to 10,000 sq. ft. Exide battery in one lamp unit provides power for more than 8 hours of continuous lighting. Once normal power is restored, automatic controls recharge the dependable, long-life, trouble-free Exide battery.

WRITE for facts on why Exide Lightguards guarantee more protection for every dollar you invest in such equipment.

Exide INDUSTRIAL DIVISION,
The Electric Storage Battery Co., Philadelphia 2, Pa.

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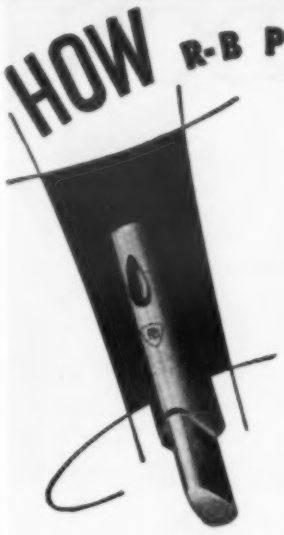
HOW R-B PUNCHES OPERATE



R-B standardized punches and die buttons are inserted in their retainers with a simple push and a twist.

Punches and die buttons are instantly removed by inserting a tanged tool in retainer hole to release the locking ball.

Each R-B retainer is equipped with a spring loaded locking ball which engages the recessed portion of standard and special R-B punches and die buttons. Locked punches and die buttons are always accurately aligned—no additional keying is required.

Use R-B Engineering Service for Your Tough Piercing Problems.

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
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Also Produced in OTHER ALLIED PLANTS
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

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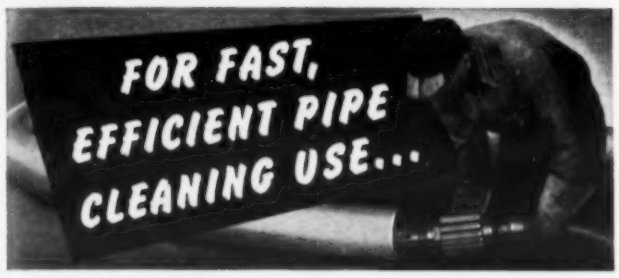
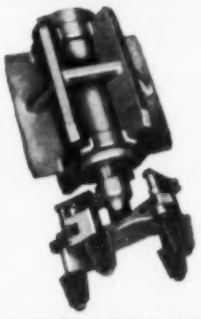


LAGONDA TUBE CLEANERS



Motor with Quick Repair head and sleeve for 10" straight pipe. A universal coupling would be used between the motor and head for curved pipe cleaning.

This rugged, air or steam driven motor, teamed with a wide selection of cutter heads, will clean any pipe up to 20" I.D. New or used . . . straight or curved. It makes short work of rust, weld spatter, sand, mill scale, etc. Yet, the tough cutter heads will not mar inner pipe surfaces. They are widely used throughout the pipe manufacturing and fabrication fields today.

For full details see your local Elliott representative or write for Bulletin Y-34. Elliott Company, Springfield, Ohio.

Y4-11

ELLIOTT Company

STEAM TURBINES • MOTORS • GENERATORS • DEAERATING HEATERS • EJECTORS
CONDENSERS • CENTRIFUGAL COMPRESSORS • TURBOCHARGERS • TUBE CLEANERS • STRAINERS

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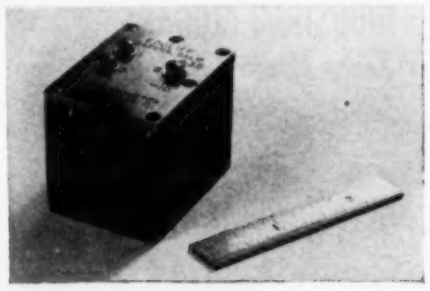
Edcliff INSTRUMENTS



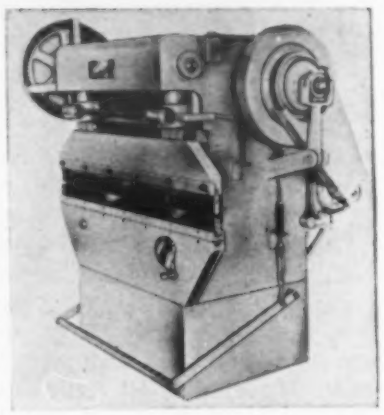
LINEAR ACCELEROMETER

Featured is the MODEL K-1 MINIATURE ACCELEROMETER containing the most desirable characteristics obtainable in potentiometer type instruments. The K-1 is available in ranges from 0.5g to 100g's and with integral heater & thermostat for more constant damping at sub-zero temperatures. Write today for free illustrated brochure giving technical facts about The EDCLIFF MODEL K-1 ACCELEROMETER & other electromechanical instruments.

EDCLIFF INSTRUMENTS
383 N. FOOTHILL BLVD., PASADENA 8, CALIF.

▲ For more details circle NED-38 E4 on enclosed inquiry slip ▲

PRODUCTION BENDING BRAKE
speed is 40 strokes per minute



Designed for production runs, Connecticut sheet metal bending brake is powered by a ¾-hp motor and will bend 16-gage mild steel 4-ft wide over a ¼-in. die opening. It has a speed of 40 strokes per minute and is fitted with a reversing switch permitting ram to be backed off in case of jamming. Front-operated back gage, Oilite shaft bearing system and antifriction flywheel bearing are features. Side frame spacing is 32 in., die space 7 in., stroke 2 in. and adjustment 1¼ in., giving a shut height over die block of 3¼-in. Brake can also be adapted to multiple punching operations. Made by **W. Whitney Stueck Inc.**, Dept. N, Old Saybrook, Conn.

▲ For more details circle NED-39 E4 on enclosed inquiry slip ▲

GEARED MOTORS
European made, provide high torque and low speed output

Complete line of geared motors made in Europe according to NEMA specifications is now being offered for low-speed drive applications. Typical uses are agitators, fans and blowers, conveyors, drop hammers, kilns, pulverizers, presses, screens, shears and stokers. Power ranges from ⅓ to 15 hp, output speeds down to 0.31 rpm, and reduction ratios go as high as 3657:1.

Gears are of planetary construction, providing maximum compactness, and motors are ACEC totally-enclosed fan-cooled types. Feature is that planetary cells have no intermediary bearings. They have been engineered to close tolerances to permit slight drift of their mobile components, insuring even load distribution. Leakproof oversized oil chamber is designed to reduce loss of viscosity of lubricating oil caused by churning and heating.

Units have three working positions and three mounting arrangements. In horizontal mountings, gears are splash lubricated, while in vertical mountings, plunger pump aids lubrication. Sold and serviced by **Belgian Electric Sales Corp.**, Dept. NED-1P, 40 E. 49th St., New York 17, N. Y.

▲ For more details circle NED-40 E4 on enclosed inquiry slip ▲

WHEN YOU WANT WASHERS SAVE BY BUYING FROM **WHITEHEAD**

Thousands of washer dies on hand can save you money! O. D. sizes from ⅛" to 18"; any I. D. you want; any thickness from .002" to ⅜". Any metal—steel, brass, copper, bronze, aluminum.

SPECIAL SHAPES MADE TO ORDER

Whitehead's Catalog lists hundreds of washer sizes; also—cable clips; pipe, conduit and wire clips; burrs, plugs, spacer shims, retainers, gaskets—either in stock or made to your specifications. Write for a copy.

54-1

WHITEHEAD STAMPING CO.
EST. 1903
1669 W. Lafayette Blvd., Detroit 16, Michigan

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DAVIS *Continuous combustible gas alarm systems*

REMOTE HEAD AND TUBE SAMPLING TYPES

A complete line of Davis Gas Alarm Systems, together with a number of accessories, is available to meet varying requirements in protecting life, property, and processes against the explosive hazards of combustible gases and vapors in air.

They function by means of automatic continuous sampling of the flammable gas-air mixture, and give audible and visual signals when the gas concentration approaches dangerous limits.

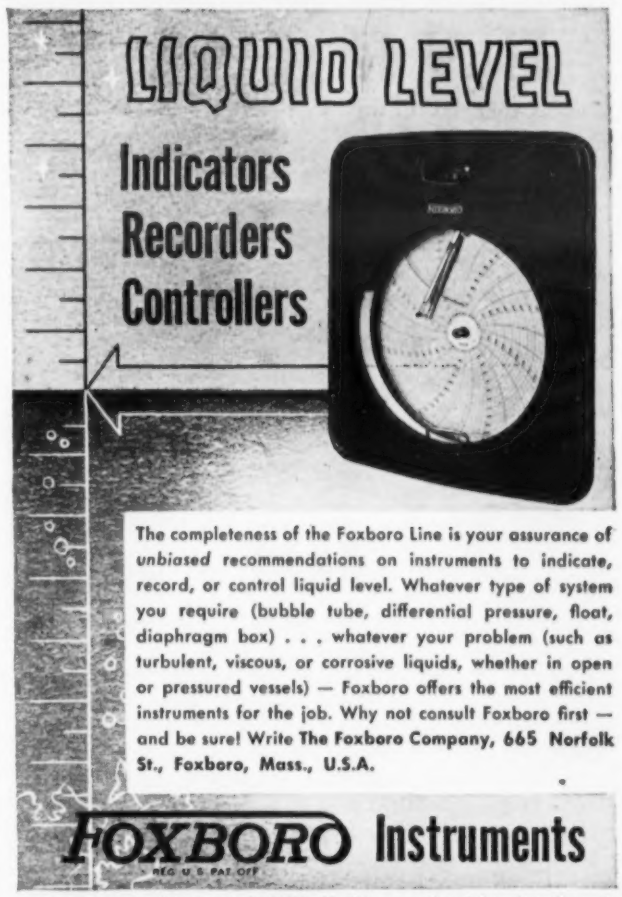
Davis also offers special equipment designed to meet particular requirements or applications.

For complete information, write for Technical Bulletin 11-36

INSTRUMENT DAVIS DIVISION **DAVIS INSTRUMENTS**
Division of Davis Emergency Equipment Co., Inc.
54 Halleck Street, Newark, N. J.

Progressive Manufacturers of Gas Analysis Instruments

▲ For more details circle NED-42 E4 on enclosed inquiry slip ▲



The completeness of the Foxboro Line is your assurance of *unbiased* recommendations on instruments to indicate, record, or control liquid level. Whatever type of system you require (bubble tube, differential pressure, float, diaphragm box) . . . whatever your problem (such as turbulent, viscous, or corrosive liquids, whether in open or pressured vessels) — Foxboro offers the most efficient instruments for the job. Why not consult Foxboro first — and be sure! Write The Foxboro Company, 665 Norfolk St., Foxboro, Mass., U.S.A.

FOXBORO Instruments
REG. U. S. PAT. OFF.

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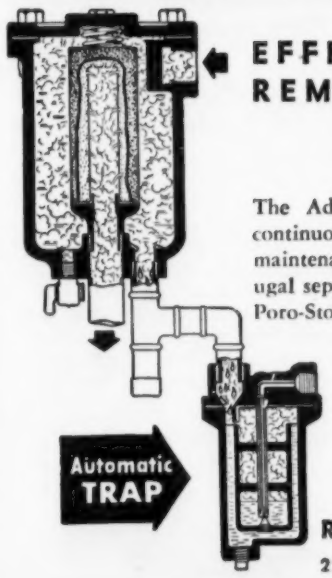
Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES:
OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 177.

R. P. ADAMS CO., INC.
227 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

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What do you know about the *Moly-sulfide* LUBRICANT?

A LITTLE DOES A LOT

You may have heard about a highly successful solid-film lubricant which is giving remarkable results in the shop and in the field.

In one 40-page booklet we have collected 154 detailed case-histories describing how difficult lubrication problems have been overcome by molybdenum sulfide. If you wish to be up to date about this solid-film lubricant, write now on your business letterhead for a free copy.

THE LUBRICANT OF MANY USES

Moly-sulfide
A LITTLE DOES A LOT

SEND FOR THIS FREE BOOKLET TODAY

Climax Molybdenum Company
500 Fifth Avenue · New York City 36 · N.Y.

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NAME PLATES • PANELS • DIALS

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10,000 IN USE Accepted by all leading manufacturers as the speediest, most versatile portable engraver. Only the NEW HERMES has these patented features:

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- Self-centering holding vise.
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13-19 University Place • New York 3, N. Y.

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SPECIAL METAL FABRICATIONS TO YOUR SPECIFICATIONS!

Allied can supply your requirements for any special metal fabrication for use in processing or manufacturing!

- Trays
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- Tanks
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- Muffles
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Our modern, up-to-date facilities are equipped to fabricate practically any type of special assembly. Look at this list of precision-built products . . . recognize some of them? We can build these and many others to your specifications . . . from your prints . . . or, we will develop working prints for you.

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AMS

Allied
METAL SPECIALTIES, INC.
P. O. Box 235-C • Hampden Station • Baltimore 11, Maryland
A Few Choice Distributorships Still Available!

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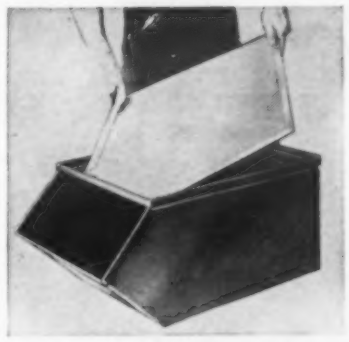
TOTE BOX DIVIDERS
twice the variety of parts are stored



Designed for use in Stackbin tote boxes, removable dividers permit doubling the variety of parts which can be stored without increasing floor space required. They are available for standard or special Stackbin sizes and provide flexibility in the size of openings. Stackbins with permanent dividers are also available, again in all standard and in special sizes. Made by **Stackbin Corp.**, 1081 Main St., Pawtucket, R. I.

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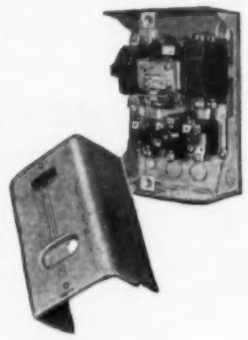
OVERLOAD STARTER
has adjustable heater coil



Motor protection within 3 per cent of usable motor load is provided when three-coil overload starter is installed in industrial motor circuits. Unit is furnished in the same enclosure as a two-coil unit and is equipped with an adjustable heater coil which provides four different ratings from a single coil by changing its position. Made by **Cutler-Hammer, Inc.**, 312 N. Twelfth St., Milwaukee 1, Wis.

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SAFETY STEP LADDER
one to eight-step models available

Safety features of Roll-Ezy step ladders include tip-proof base, steps of Globe Safety Grip Strut steel grating and steel pipe handrails. Rails enclose both sides of steps and extend 32 in. above and around top step on higher models. Ladder rides on free swiveling casters for mobility until weight of man on steps compresses springs, allowing four rubber tipped legs to rest securely on floor. One to eight-step models are available for work level from 6 ft to 11 ft 9 in. Made by **Arrow Products, Inc.**, Dept. SL, 414 Front Ave. N. W., Grand Rapids 4, Mich.

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Try **HELIX**

BONDING AGENT R-313

- A thermosetting adhesive that cures at room temperature and needs no pressure. High electrical insulating properties.
- Gives a bonding strength of 3000 psi between metal parts.
- Non-porous — gives high pressure seals between metal and glass, plastics, etc.
- Unaffected by acids, alkalies, fuel and lubricating oils.
- Reduces manufacturing costs by eliminating bolts, screws, rivets.

Write for Literature to Dept. NED-5
A better product for better production

CARL H. BIGGS
COMPANY
2255 Barry Avenue
W. Los Angeles 64, Calif.

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SHELDON
CHICAGO U. S. A.

More will be *profit* with a SHELDON

It actually costs less to do most turning jobs on a Sheldon Precision Lathe. Machine-tool investment is cut to a fraction. Power cost is materially reduced. Less experienced operators can operate Sheldons safely and efficiently. Even cost-loadings for plant—floor space, heat and light are lower because two Sheldons can often operate in the space occupied by one large lathe.

On most "everyday" jobs a Sheldon will actually turn out more pieces per hour too. With double V-belts to the spindle Sheldon lathes deliver enough power to take a healthy bite in direct drive, at really high speeds. Sheldon's "Zero Precision" Taper Roller Bearings permit work to the closest tolerances. Very seldom if ever are such extremely accurate bearings used in other lathes.

You will actually keep more as profit if you use Sheldon Lathes wherever possible.

Write for Catalog

SHELDON MACHINE CO., Inc. 4215 North Knox Ave., Chicago 41, Illinois

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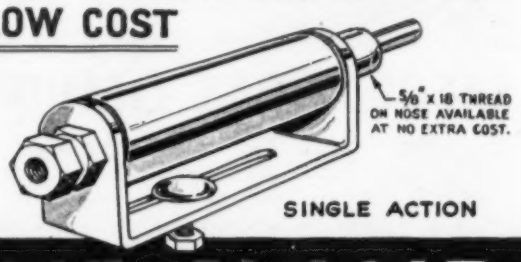
Something NEW...

LOW COST



SINGLE ACTION

AIR CLAMP

WITH A HIGHER RANGE OF ADAPTABILITY THAN HAS BEEN PREVIOUSLY AVAILABLE.

Standard cylinder has a 1" bore and 2½" stroke with a new type mounting bracket which provides for a 3" longitudinal and a 360° radial adjustment.

Cartridge-like cylinder easily replaced without removing bracket from mounted position.

Air cylinder is of heavy wall brass tube construction and entire assembly is

REASONABLY PRICED AT $68.00 PER DOZ.

SUMMIT TOOL & MFG. CO.
PONTIAC 0681
2907 Summit St. Toledo 11, Ohio

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INDUSTRIAL SLOGANS
Take Your Choice!

Choose from 50 slogans to go on your work gloves. Or make up your own slogan!

Safety slogans—reminder slogans can help solve your production problems. Make up slogans of your own, or choose from ours. We print them free of charge to your specifications on the work gloves you order—leather gloves, leather palm gloves or cotton gloves—we make them all. *Let us know your needs today!* We'll reply promptly. Immediate delivery on regular stock . . three weeks or less on special order.

WRITE FOR INFORMATION TODAY!

FAIRFIELD GLOVE CO.
FAIRFIELD, IOWA

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do you use EXPLOSIVE FIRE-HAZARD degreasers?

NAVEE '53 SAFER!

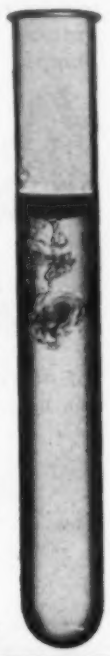
After a recent disastrous industrial fire, a large national corporation as well as leading safety authorities throughout the country have specified a minimum flashpoint of 250° F. for solvent-emulsion degreasers. NAVEE '53 was designed to meet the demand set by these safety requirements.

HIGH FLASH POINT—250°F.

NAVEE '53 has a constant flash point of 250° F. and no fire point! A blowtorch applied to NAVEE '53 for several minutes would not ignite it! NAVEE '53 can be used for hot tank degreasing without the danger of fire, overpowering fumes or loss of active solvents through evaporation.

NAVEE '53 IN ACTION

Photo at right shows instant action of NAVEE '53 as it chemically emulsifies oil into thousands of tiny suspended droplets and causes it to mix instantly with water. NAVEE '53 goes to work in the same way on your degreasing problems. Safe, powerful solvent action penetrates the burned-on greases, oils, discolorations; then a water rinse instantly emulsifies the dirt and grease, leaving surface chemically clean.



SEND FOR FULL INFORMATION!

the PENETONE co.

Box ND 554, TENAFLY, NEW JERSEY

For more details circle NED-55 E4 on enclosed inquiry slip

CAPCO DOCK COVERS GIVE YEAR 'ROUND PROTECTION

CAPCO Dock Covers completely enclose the space between car and building doorways protecting loading and unloading during bad weather...preventing accidents... insuring against loss of heat or refrigeration. 51 different models in any size for every loading problem.

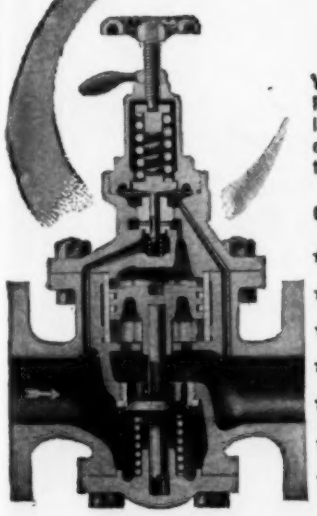
CAPCO

Write for literature and name of nearest distributor.

622-24 PROSPECT AVENUE • KANSAS CITY 24, MISSOURI

For more details circle NED-56 E4 on enclosed inquiry slip

CAN YOU MATCH THESE VALUES?



Class L-3 Pressure Reducing Valve

You can if you are using LESLIE Pressure Reducing Valves for your pressure regulation requirements. You get the features essential to accurate control — features that reduce maintenance costs.

Consider these values, Standard with LESLIE:

- ★ DEPENDABLE PERFORMANCE
- ★ LOWEST OVERALL OPERATING COST
- ★ WIDE RANGE OF ADJUSTMENT
- ★ INTERCHANGEABILITY OF PARTS
- ★ RENEWABLE PARTS
- ★ TOP QUALITY AND WORKMANSHIP
- ★ A COMPLETE LINE OF REGULATORS

Write for Bulletin 461D

TRADE LESLIE MARK Regulators Since 1900

LESLIE CO., 227 Grant Avenue, Lyndhurst, New Jersey.

For more details circle NED-57 E4 on enclosed inquiry slip

ELECTRIC HAND DRYER has permanent air filter

Features of the model C electric hand dryer for washrooms include high air velocity and volume, permanent type air filter and touch-action starter bar. Its revolving air baffle is equipped with nonbreakable baffle guards. Drying instructions are electric illuminated and construction is tamperproof. Made by **Electric-Aire Engineering Corp.**, Dept. NED, 209 W. Jackson Blvd., Chicago 6, Ill.

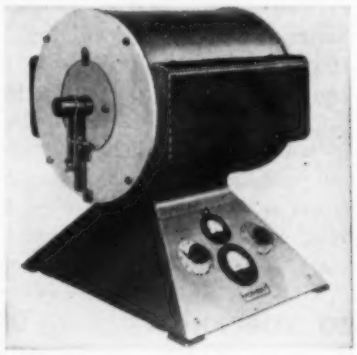
For more details circle NED-58 E4 on enclosed inquiry slip

BOX COVER SWITCHES have torsionally preloaded contacts

Line of 10-amp T-rated box cover switches features torsionally preloaded contacts and positive kick-off, giving high performance on type C lamp loads. Bakelite bodies are totally enclosed and compact, leaving ample room for wiring inside the box. Single pole and three-way switches are available on 3¼ and 4-in. covers having baked aluminum finish. Switches are UL-approved and conform to Federal Specifications W-S-896 and REA requirements. Made by **Pass & Seymour, Inc.**, 50 Boyd Ave., Syracuse 9, N. Y.

For more details circle NED-59 E4 on enclosed inquiry slip

COMBUSTION TUBE FURNACE has 2600° F operating temperature



High temperature combustion tube furnace operates at 2600° F, adequate for dealing with such materials as high alloy tool steels and heat resisting steels. Furnace is self-contained and compact, with all necessary temperature indicating and control devices fitted in the pyramid type base. Silicon carbide elements are located above and below the combustion tube, assuring rapid heating and uniform heat distribution. Combustion tubes of different diameters up to 2 in. can be used by changing plug inserts at the furnace ends. Made by **Hevi Duty Electric Co.**, P. O. Box 563, Milwaukee 1, Wis.

For more details circle NED-60 E4 on enclosed inquiry slip

STORED POWER at your Finger Tips

Bendix HYDRAULIC ACCUMULATORS

FOR INDUSTRIAL APPLICATIONS

The recognized leader in aircraft accumulator production now offers a line of accumulators for industrial use—either spherical or cylindrical—to best accommodate your space requirements.

Bendix-Pacific Industrial Accumulators, like their aircraft counterparts, furnish the optimum in performance and long life—with a minimum of maintenance. For complete information write to—

Industrial Hydraulic Section

Bendix Pacific AGRICULTURAL HYDRAULICS PACIFIC DIVISION • BENDIX AVIATION CORP. NORTH HOLLYWOOD CALIFORNIA

For more details circle NED-61 E4 on enclosed inquiry slip

WEBB hand pushed TROLLEYS

Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.

P-2530 4" to 12" I-BEAM; 1 Ton Capacity

For Bulletins and Prices, write to:

JERVIS B. WEBB CO.

Conveyor Engineers and Manufacturers

8921 ALPINE AVE. • DETROIT 4, MICH.

Offices In Principal Cities

For more details circle NED-62 E4 on enclosed inquiry slip

Find Out About

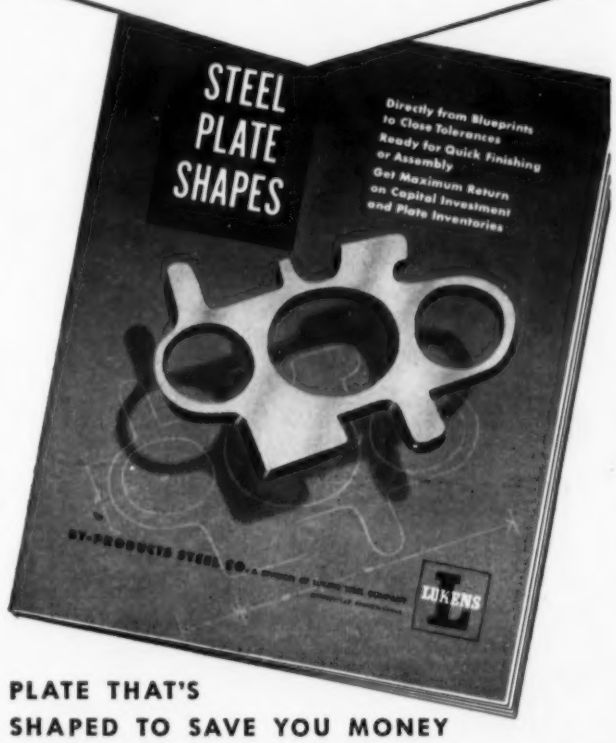


PLATE THAT'S SHAPED TO SAVE YOU MONEY

You save both time and money using this new Steel Plate Shapes Service. Find out how you can start production several steps ahead. You can eliminate plate inventories, and you pay freight only on that part of the plate that is actually required.

There's no need to invest in new cutting and forming equipment for your own shops. We have over 150 major machines to flame-cut, shear, blank, press, bend or otherwise form steel plate.

This new Bulletin 712 shows how Steel Plate Shapes Service can help you. For a free copy, use this coupon or write on your company letterhead.

LUKENS BY-PRODUCTS STEEL CO.

A DIVISION OF LUKENS STEEL COMPANY

By-Products Steel Co.
Division of Lukens Steel Company
676 Strode Avenue, Coatesville, Pa.

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CITY _____ ZONE ____ STATE _____

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THE RESPIRATOR THAT IS U.S.B. OF M. APPROVED FOR TYPE "A" DUSTS

More than 24 sq. in. twin filter area. Sanitary face cloth. Soft rubber face mask. Has all patented DUPOR features including bulb valve controlled breathing—panorama view with no blind spots. A favorite for years!

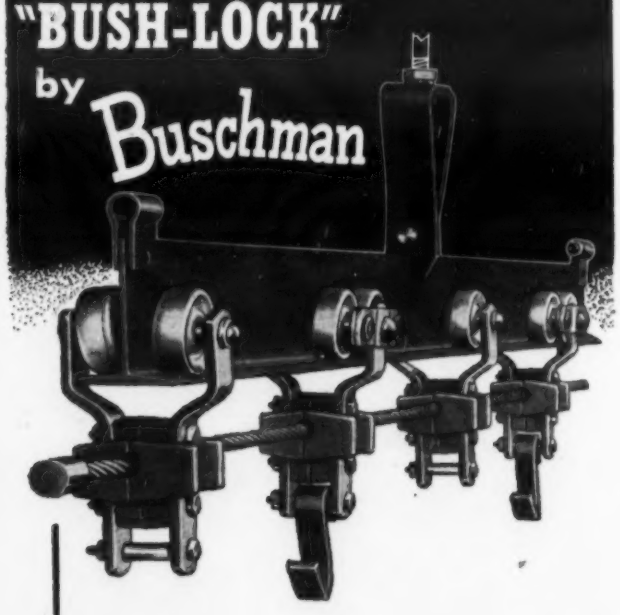
Sample sent

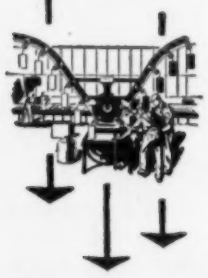
$3.00 pp

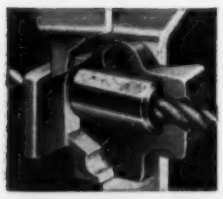
H. S. COVER
South Bend, Ind.

▲ For more details circle NED-69 E4 on enclosed inquiry slip ▲

Meet the World's Newest
CABLE CONVEYOR
"BUSH-LOCK"
by Buschman







Two halves of an adaptor block, to which are attached trolleys and hook, are bolted around cylindrical bushing immovably locked to cable on accurate centers by high pressure swaging.

C-132-EWD

Here is a conveyor—tried, proven, accepted—whose patented design gives 30 times greater cable life . . . enables the user to stock standard lengths of cable for fast, easy, on-the-spot installation, revision or maintenance . . . facilitates lubrication to protect against acid, moisture or other deteriorating factors . . . provides for an increased range of applications.

Constant true alignment of trolleys is assured and binding of cable at flexure points is eliminated by exclusive BUSH-LOCK design.

The new BUSH-LOCK Cable Conveyor is available in ¼" and ⅜" sizes for transporting parts through cleaning, drying, painting, and progressive assembly operations or for use as overhead storage banks.

Both ¼" and ⅜" BUSH-LOCK Cable Conveyors will operate on existing Buschman Snub-Lock systems.

Write today for literature.

PRODUCE MORE . . . FOR LESS on Buschman Conveyors

THE E. W. BUSCHMAN COMPANY
4482 CLIFTON AVENUE • CINCINNATI 32, OHIO
REPRESENTATIVES IN PRINCIPAL CITIES

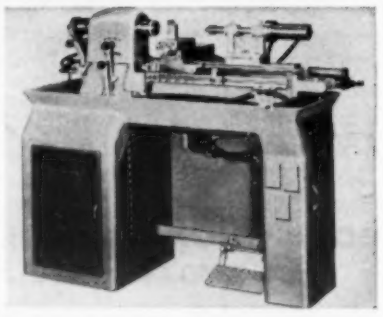
▲ For more details circle NED-70 E4 on enclosed inquiry slip ▲

STEEL BELT CONVEYORS
12-60 in. wide, lengths 10 ft and up

Steel belt conveyors in widths from 12 to 60 in. and any length from 10 ft up have been added to Weld-Bilt line of materials handling equipment. Units are made up of 14-gage cold finished steel sections which move on ball bearing rollers and grease sealed, hardened runways. Sections are continuously hinged with ¼-in. bolt pins. The 5-ft drive section is equipped with high-torque, gear-in-head motor with enclosed case in which gears operate in oil bath. Self-aligning ball bearing pillow blocks support the drive and idler shafts. Screw type take-up maintains proper belt tension at idler section which is also 5 ft long. Made by **West Bend Equipment Corp.**, 329 Water St., West Bend, Wis.

▲ For more details circle NED-71 E4 on enclosed inquiry slip ▲

PRODUCTION LATHE
has 1 in. draw-in collet capacity

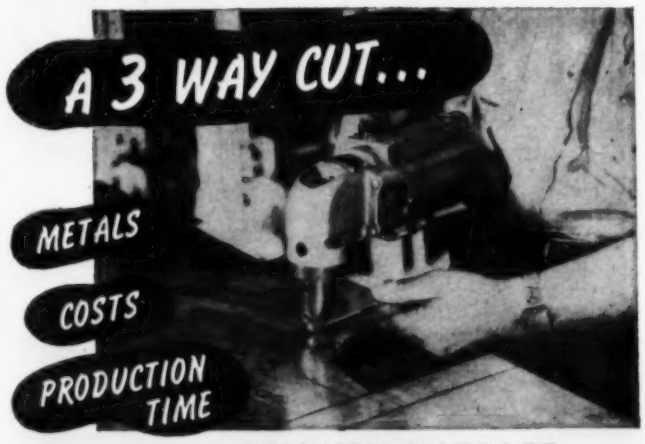


High production air feed lathe features combination pneumatic and hydraulic automatic carriage cycling. Either a draw-in collet of 1 in. capacity or a stationary collet of 13/16-in. capacity can be supplied. Swing is 11 in. and carriage travel is 13 in. Headstock spindle is preloaded ball bearing type with speeds up to 4000 rpm. Lathe is powered by a ¾-⅜-hp motor through a clutch brake drive which is wired to the carriage cycle to stop and start the spindle for part changing. Automatic tool relief is furnished. Made by **Elgin Tool Works, Inc.**, Dept. P, 1771 Berteau Ave., Chicago 13, Ill.

▲ For more details circle NED-72 E4 on enclosed inquiry slip ▲

DO YOU KNOW? Three 16-mm sound motion pictures covering the applications and operation of the Denison Multipress in processing, fabricating, subassembly, final assembly, testing and inspection are available for showing to any interested group without cost. Details of these informative films are given in 6-page illustrated folder which is available from Marion Burton, advertising manager, Denison Engineering Co., 1152 Dublin Rd., Columbus 16, O.

▲ For more details circle NED-73 E4 on enclosed inquiry slip ▲



with the **FENWAY NIBBLER**

Here is the compact, versatile production tool that cuts costs as easily as all metals up to 14 gauge, including stainless steel.

Incorporating the punch press method of cutting, costly reforming of cut edges to original shape is eliminated. Almost any varied contour can be followed. Compactness enables the Nibbler to be used in any position . . . at any angle. It cuts irregular shapes accurately, holes in tubes and ducts and without distortion or elongation. Lightweight for hand use, the Nibbler can also be vise-mounted as a production tool.

Get the complete story of the Fenway Nibbler's cost and metal cutting advantages.

Write for descriptive literature.

FENWAY MACHINE COMPANY
263 N. 23rd Street, Philadelphia 3, Pa.
Distributors in principal cities
In Canada: James Morton, Ltd., Galt, Ont.

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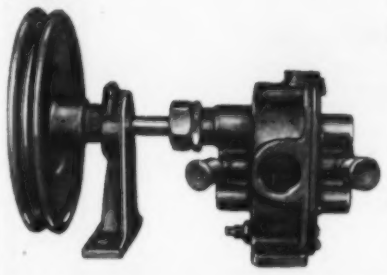
WE WANT ESTABLISHED Distributors throughout the U. S. to handle a profitable pump line. Priced right. Fast moving item. Guaranteed. Customers remain satisfied and reorder. *Complete your line of pumps.*



Type "H" Centrifugal Pumps, pipe size connections ¼", ½", ¾", and 1".

California Gear Pumps, pipe size connections ⅛", ¼", ⅜", ½", ¾", and 1".

FOR INDUSTRIAL, MARINE, AGRICULTURAL AND DOMESTIC USES.
Both lines are superior quality pumps.

WE MAKE SPECIAL PUMPS TO CUSTOMER'S SPECIFICATIONS.

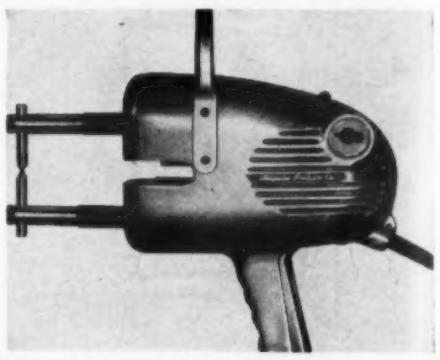
Made in California by manufacturer established since 1932.
Distributors write for complete details

E. L. PRICE PUMP CO.
P. O. BOX 357 Sonoma, California

▲ For more details circle NED-75 E4 on enclosed inquiry slip ▲

Ampower **PORTABLE SPOT WELDER**

Regardless of your previous Experience with PORTABLE SPOT WELDERS



Model 5201 220-240V-60C-AC WEIGHS ONLY 26 POUNDS!

Check these exclusive AMPOWER features

- WELDS ALUMINUM (Most alloys) and STEEL
- HIGH ELECTRODE PRESSURE Up to 1000 lbs. by adjustment of tip
- CONTROL OF TIMING CYCLE From 1/60 of second to full second
- FAST SPOT WELD As fast as operator can squeeze handle
- ELECTRONIC TIMING SWITCH Thyratron controlled—enclosed in Unit. Takes guess-work out of Spot Welding
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- THROAT DEPTH OF 7 INCHES with 3 inch opening (Standard Models)
- CONSISTENTLY GOOD —UNIFORM WELDS Increase Production—Save Money

Ampower has an unlimited number of applications—many jobs that a spot welder this size is not expected to do. Ideal, especially for "hard to get at" places. Pistol grip assures easy operating and handling.
Electronic controls, transformer and switch are all contained in highly polished aluminum housing.
Also available at small extra cost is a stand into which welder can be quickly mounted and used as foot operated floor model suitable for semi-production work.
An outstanding, dependable spot welder

Write today for FREE folder, price list and address of your nearest Jobber.
AMPOWER PROD. CO., 10207 Ridgeland Ave., P. O. Box 464, Oak Lawn 70, Ill.

▲ For more details circle NED-76 E4 on enclosed inquiry slip ▲

HEAT THAT MOVES AROUND

THE fact that the discharge outlets of WING Revolving Unit Heaters keep the heated air in constant, gentle motion is one of the reasons why nationally known firms like the Budd Company have installed them in their plants, both at Philadelphia and in the one shown in this photograph, at Gary, Indiana. The big blanking and forming presses in this great plant present a natural barrier to ordinary fixed discharge heating systems, but not to the moving streams of heated air from the WING Revolving Heaters, even suspended, as they must be, far above the floor, to clear the cranes. That is equally true in the summer time when, with steam turned off, the cooling breezes from the revolving discharge outlets keep workers comfortable on the hottest days. Investigate. Write for Bulletin HR-6.

L. J. Wing Mfg. Co.
165 Vreeland Mills Road
Linden, N.J.

Factories: Linden, N.J. & Montreal, Canada
In Europe: Etob Wanson, Brussels, Belgium

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45	95	145	195	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195
46	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196
47	97	147	197	247	297	347	397	447	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197
48	98	148	198	248	298	348	398	448	498	548	598	648	698	748	798	848	898	948	998	1048	1098	1148	1198
49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199

PLEASE FILL IN COMPLETELY—PRINT OR TYPEWRITE

—USE THIS SLIP FOR MAY 1954 ISSUE ONLY—

E-4

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
- ☐ Under $75,000

To Use This Self-Mailer . . . Just Fill It In, Fold, Seal and Mail . . . No Postage Needed

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These ELECTRIC Trucks Will Never be "Down" due to Lack of Power!

Only electric industrial trucks give you the advantage of interchangeable power so that trucks can work while power units are being serviced. With Ready-Power drive you get a double advantage: (1) The quick interchangeability of electric power units, (2) The constant full power of gas-electric or Diesel-electric drive. Write for information.

READY-POWER

The READY-POWER Co., 3832 GRAND RIVER AVE., DETROIT 8, MICH.

Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

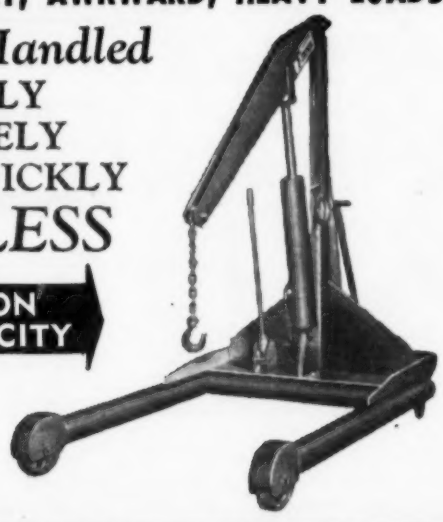
▲ For more details circle **NED-78 E4** on enclosed inquiry slip ▲

BULKY, AWKWARD, HEAVY LOADS

Handled
- EASILY
- SAFELY
- QUICKLY

for LESS

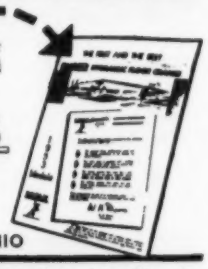
2 TON CAPACITY



SUBSTITUTE FOR AN ELEPHANT ®

GET THIS BOOK

Gives all the facts about Ruger's complete line of hydraulic floor and truck mounted cranes, capacities 1000 to 6000 lbs.



RUGER CRANES

619 West Fourth St. UHRICHSVILLE, OHIO

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STREAMLINED AND RUGGED

BRAND NEW

Cast Iron Housing

Black Wrinkle Finish

Sponge Rubber Skid Pad

LINEMASTER CLIPPER FOOT SWITCH

The streamlined Clipper Switch matches your unit's most modern features! Complete with all the rugged features of a heavy industrial switch. It is easily operated from sitting or standing position giving the worker a free hand for greater efficiency. Nearly 100% dustproof and yet accessible to wiring—just two screws to remove to reach interior mechanism.

Size—4½" x 3½" x 1½" Wght. 2 lbs.

WRITE FOR BULLETIN AND PRICES

Let us quote on your switch requirements

LINEMASTER SWITCH CORP.

424 Woodstock Terrace • Woodstock, Conn.

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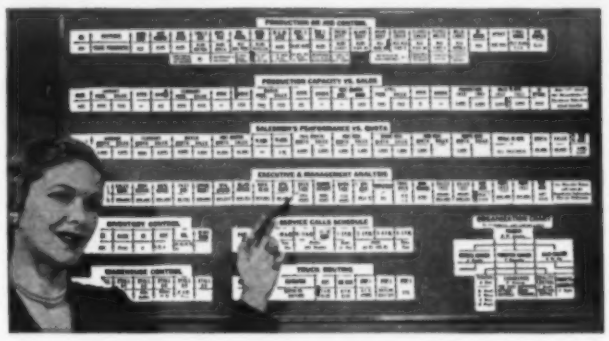
VISUAL CONTROL BOARD promotes efficiency in production, sales, inventory and other uses

All the facts of any situation, such as production schedules, sales records and quotas, personnel analysis, management control and analysis, service

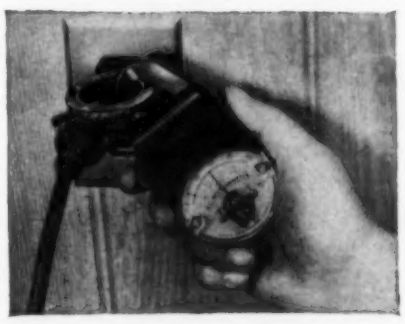


schedules, inventory control or traffic control and routing, can be seen at a glance at the Flexi-Trol visual control board. Records maintained on the board cannot become lost and deadlines, shortages or overdue items are easily seen.

Standard board is 42 x 24 in. and is furnished with 1000 cards for posting data. Confidential model is available with hinged covers that will conceal the record. There are 25 horizontal columns and 26 vertical columns with a total of 650 slots for the cards of minimum 1½ x ⅞-in. size. Three larger cards are offered, all for written, printed or typed messages. Cards are furnished in five colors in strips for easy typing. Made by **Methods Research Corp.**, 442 Mosel Ave., Staten Island, N. Y.

▲ For more details circle **NED-81 E4** on enclosed inquiry slip ▲

ELECTRICAL TESTING ACCESSORY for use with tong-type meters



Electrical testing using tong-type meters is facilitated by use of model A-40 Amprobe Energizer as an accessory. Heavy duty construction provides capacity of 25 amp for direct readings and 10 amp for 10X sensitivity readings. Energizer serves as a "split" plug to divide double-conductor lines at the outlet for a quick snap-around ammeter reading. It can increase split core ammeter sensitivity by ten times for precise readings on small appliances and fractional horsepower motors. It also makes it possible to measure line voltage at the outlet while the appliance is connected to the line. Made by **Pyramid Instrument Corp.**, Dept. NED, Lynbrook, N. Y.

▲ For more details circle **NED-82 E4** on enclosed inquiry slip ▲

Sure! **Turner can furnish ordinary 3 or 4 speed transmissions—BUT . . . Turner can ALSO furnish 6 or 9 speeds for AS LITTLE AS $10 to $20 ADDITIONAL . . .**

Now, for slight added cost you can have 6 or 9 speeds at the "twist of a wrist." Models range from fractional to 60 H.P. Wide range of applications on machine tools as well as other equipment. Write for specification and descriptive catalog.

See your dealer or write for further details

TURNER 3R3 UNI-REDUCER

New simplified speed reducer mounts on motor shaft with d torque arm to frame or base. Fits standard motors 1 to 5 H. P., 1800 RPM; 1 to 3 H.P., 1200 RPM. Reduction ratio 3.04 to 1. Write for information.

TURNER UNI-DRIVE Company

3485 Terrace Street Kansas City 8, Missouri

▲ For more details circle **NED-83 E4** on enclosed inquiry slip ▲

WILLSON SAFETY SPECTACLES

Everything you want in
- PROTECTION
- COMFORT
- STYLE

STYLE WB—Bronze-color, non-flammable butyrate frame. Standard cable or spatula Hi-Line® temples. (With matching sideshields, Style WBS.)

STYLE A—Metal frame, on-line temples, with metal reinforcing bar or pearloid brow rest. (With sideshields, Style AS.)

STYLE AH—Sturdy, single-bridge metal frame with Hi-Line® temples. (With sideshields, Style AHS.)

STYLE AV—Modern metal frame with Hi-Line® temples, metal reinforcing bar. (With sideshields, Style AVS.)

STYLE WK—Flesh-color butyrate frame with spatula or half-plastic, half-cable temples. (With sideshields, Style WKS.)

ASK YOUR WILLSON DISTRIBUTOR to show you the Willson Sample Kit of Safety Spectacles which includes lenses, frames and sideshields available.

WILLSON

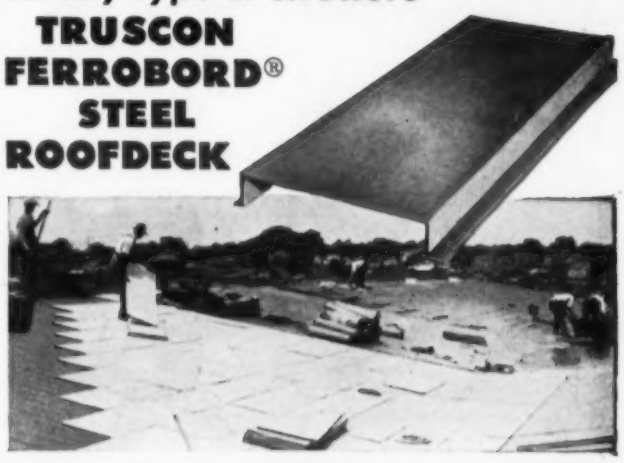
WILLSON PRODUCTS, INC.
219 Washington St., Reading, Pa.

▲ For more details circle **NED-84 E4** on enclosed inquiry slip ▲

For Quick, Permanent Roofing

on any type of structure

TRUSCON FERROBORD® STEEL ROOFDECK



This strong, lightweight, steel roofdeck can be applied to any flat, pitched or curved roof structure. Large areas can be covered quickly. The members are so designed and formed that each unit firmly interlocks with the adjoining unit along the full length, achieving the maximum in lateral distribution of concentrated loadings. The members are fabricated in units long enough to span over three or more purlin spacings.

Ferrobord is manufactured from both 20-gage and 18-gage copper-bearing strip steel. Each unit is 6 inches wide and has a depth of either 1½" or 1¾". WRITE FOR FREE BOOKLET!

TRUSCON MARK OF MERIT PRODUCTS

TRUSCON STEEL DIVISION
REPUBLIC STEEL
1096 ALBERT STREET • YOUNGSTOWN 1, OHIO
Export Dept.: Chrysler Bldg., New York 17, N.Y.

▲ For more details circle **NED-85 E4** on enclosed inquiry slip ▲

AN INDISPENSABLE FIRST-AID INSTRUMENT

G-S EYE SWEEP

Double Purpose

MAGNET AND LOOP

$2.50

For removing metallic particles, dirt, chips, any foreign matter from the eye.

Magnetic tip easily picks up the smallest piece of iron or steel. Flexible loop is very convenient for removing cinders, dirt and non-magnetic particles.

Sterilization will not affect magnetic properties or loop. A hard rubber carrying case is provided with each G-S Eye Sweep.

ORDER TODAY DIRECT OR SEND FOR COMPLETE DATA

A DEPENDABLE GUIDE TO SAFETY
GENERAL SCIENTIFIC EQUIPMENT COMPANY
TESTED INDUSTRIAL SAFETY PRODUCTS

2701 W. Huntington St., Philadelphia 32, Pa.

RESPIRATORS • PUMPS • GOGGLES • SHIELDS • GLOVES • APRONS • HELMETS

▲ For more details circle **NED-86 E4** on enclosed inquiry slip ▲

Over 85% of the torque wrenches used in industry are

STURTEVANT TORQUE WRENCHES

Read by Sight, Sound or Feel

- Permanently Accurate
- Practically Indestructible
- Faster—Easier to use
- Automatic Release
- All Capacities

in inch ounces
...inch pounds
...foot pounds
(All sizes from 0-6000 ft. lbs.)

Every manufacturer, design and production man should have this valuable data. Sent upon request.

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

For more details circle NED-87 E4 on enclosed inquiry slip

EVERY ENGINEER

will want a copy of this new BULLETIN

It's easy to get the right answer for even your most special platen press *piping jobs* when you use this new engineering catalog on BARCO SWIVEL JOINTS. It is complete with pictures and diagrams showing correct application and contains all specification data for *improved* Barco Swivel Joints:

- Leakproof! Perfect Sealing—Hot or Cold.
- No Binding, Low Torque! Trouble-free.
- Self-Aligning! Simplifies Installation.

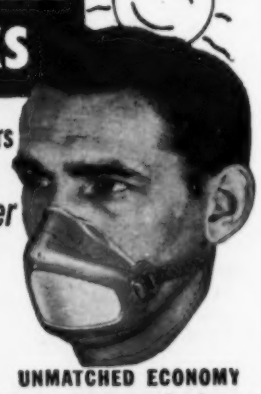
Send for a copy of new Catalog No. 265A and complete information. BARCO MANUFACTURING CO., 530F Hough St., Barrington, Illinois.

BARCO LEAKPROOF SWIVEL JOINTS

For more details circle NED-88 E4 on enclosed inquiry slip

FLEX-A-FOAM FILTER MASKS

Dust protection your workers will welcome and wear *in even the HOTTEST weather*



★ **Ideal for Hot Weather** Filter's porous action absorbs and actually exhales body heat.

★ Flex-A-Foam's lightweight (only 1 ounce complete) makes it cool and comfortable to wear — not hot and cumbersome like old-fashioned respirators.

★ Flex-A-Foam is easier to breathe and talk through than an ordinary pocket handkerchief — does away with that stuffy, smothered feeling.

Your best *Ounce of Protection* against Irritating Dust

UNMATCHED ECONOMY

Flex-A-Foam is the lowest priced *quality* respirator on the market today.

Flex-A-Foam's washable filter outlasts throw-away type by more than 100 to 1.

Fewer filter replacements with Flex-A-Foam Filter Masks mean fewer lost production hours.

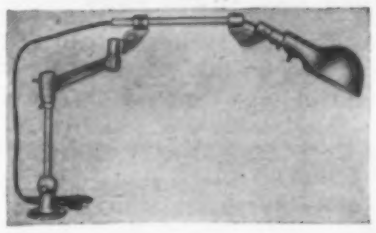
SAMPLE STILL ONLY $1.40 POSTPAID

FLEX-A-FOAM FILTER MASK

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

For more details circle NED-89 E4 on enclosed inquiry slip

MACHINE & BENCH LIGHTS
incandescent and fluorescent types



Improved line of Sturdiflex machine and bench lights has fixtures of various lengths with adjustable joints to permit spotting the light exactly where it is needed. Incandescent units make use of cast aluminum reflectors and McGill sockets. They accommodate 60 to 100-w lamps and have overall lengths of 23 and 30 in. Fluorescent fixtures use two 20-w lamps. All are UL-listed. Made by **Steber Mfg. Co.**, Dept. NED, 2700 Roosevelt Rd., Broadview, Ill.

For more details circle NED-90 E4 on enclosed inquiry slip

TAP & DRILL STAND
furnished with nine tap guides

An indexed place for 15 popular-size drills and taps is provided by this die-cast metal 3-I-Q tap and drill stand. The 2-lb stand is furnished with nine precision tap guides and a self-tension tap guide body to assure proper alignment and tap starting. Place for center punch is also provided. Unit is compact, measuring only 3½ x 7½ x 2 in. Made by **M-M-A, Inc.**, Dept. N, 53 N. Duke St., Lancaster, Pa.

For more details circle NED-91 E4 on enclosed inquiry slip

MOTOR SCOOTER
3-wheeled "pick-up" type

Powered by a Continental Red Seal engine, 1954 Globester Pick-Up is a three-wheeled vehicle designed for package delivery and personnel transportation. One-piece aluminum frame contributes to low weight of 215 lb. Scooter has an automatic variable speed transmission. Low center of gravity and other safety features make it handle easily enough to be used even by handicapped persons. It is highly maneuverable and will turn in a 6-ft circle. Special models can be built to order. Made by **Toolcraft Corp.**, Globester Motor Scooter Div., Dept. ED, Richmond, Ill.

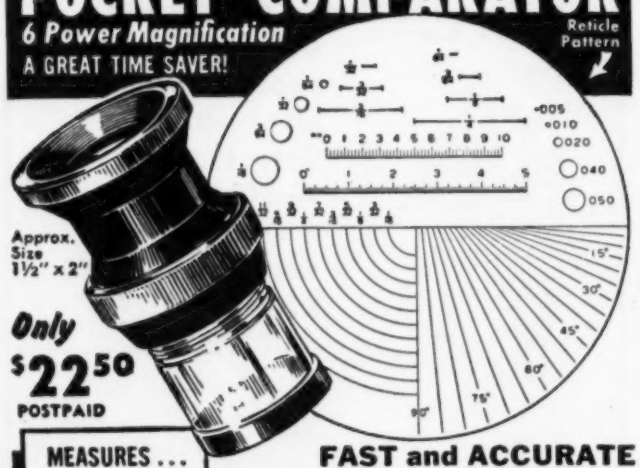
For more details circle NED-92 E4 on enclosed inquiry slip

CHECK, MEASURE, INSPECT with this HANDY

POCKET COMPARATOR

6 Power Magnification

A GREAT TIME SAVER!



Only $22.50 POSTPAID

MEASURES ... ANGLES • RADII CIRCLES LINEAR DIMENSIONS In both decimal inches and mms.

FAST and ACCURATE
On Small Parts ... Small Dimensions

First time available at such low price! EDSCORP POCKET COMPARATOR. Fine, imported measuring magnifier—for fast, accurate inspections. Black anodized metal Cell. Clean Plastic base. Focusing adjustment. Used to check layouts, machining on tools, dies, gauges — to check threads, chamfers, small holes. In optical work for checking flaws. Instrument comes in protective leather case. We guarantee complete satisfaction or your money back ...

Order Stock No. 30.061-AE . . . $22.50 postpaid.
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BARGAINS GALORE! GET FREE CATALOG AE

If you haven't seen our big, FREE Catalog, you don't know what you're missing. Fantastic variety—never before have so many lenses, prisms, optical instruments, and components been offered from one source. Positively the greatest assembly of bargains in all America. Imported! War surplus! Telescopes! Microscopes! Hand Spectroscopes, Prisms, Lenses, Reticles, Mirrors and dozens of other hard-to-get optical items. Write for FREE CATALOG "AE".

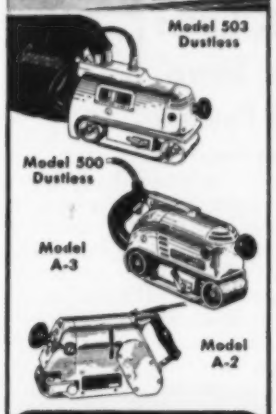
EDMUND SCIENTIFIC CORP., Barrington, N. J.

For more details circle NED-93 E4 on enclosed inquiry slip

Which of these

BELT Sanders

best fits your needs?



For production surfacing your best bet is Model 503 Powerful vacuum system. Rugged—does the rough sanding jobs formerly handled by heavier, more expensive machines.

For heavy-duty sanding you can't beat Model 500. 4"-belt makes quick work of broad, flat surfaces. Vacuum bag eliminates flying dust.

For all-purpose sanding take Model A-3. Speedy, versatile, easiest to use for chamfering and rounding edges; surfacing wood, metal, composition, etc.

For light touch-up choose Model A-2. It's 9-lb. weight and 2"-wide belt help you develop easily the necessary deftness for super-fine finishing or light stock removal.

Send for free catalog giving full information

Porter-Cable
Quality Electric Tools

PORTER-CABLE MACHINE CO.
2405 N. Salina St., Syracuse 8, N.Y.

For more details circle NED-94 E4 on enclosed inquiry slip

WHAT ARE YOUR *MAGNETIC SEPARATOR* PROBLEMS?

Remington Rand, Inc., Tabulating Machine Division, Ilion, New York, are one of many manufacturers using Homer Magnetic Separators to cut sorting and handling costs in the processing of ferrous metal parts.

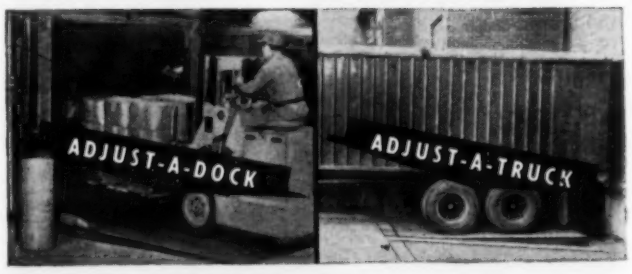
In the operation above, ferrous tabulating machine parts are quickly sorted from abrasive tumbling stones, saving many valuable man hours, and permitting the handling of larger quantities of finished parts. If you have a similar problem—consult us at once—Homer Engineers will be glad to recommend the type of magnetic equipment you need. Bulletins upon request.

Homer The HOMER MANUFACTURING CO., Inc.
DEPT. 1-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

For more details circle NED-95 E4 on enclosed inquiry slip

ROWE Adjustable Dock And Truck Ramps



...help you move more tonnage
...cut your dock handling costs
...eliminate non-productive dock tie-up of equipment and personnel
...reduce breakage and accidents

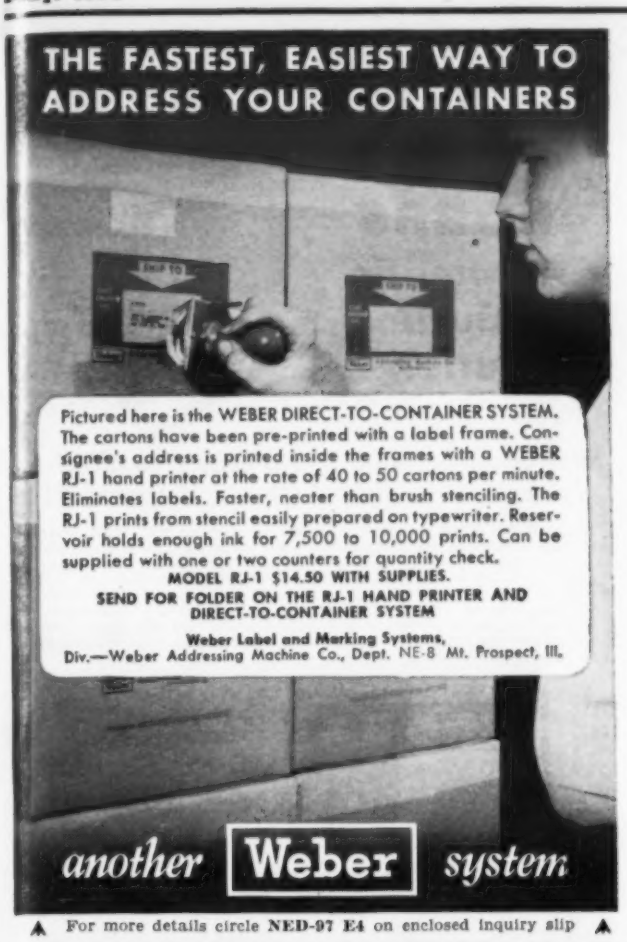
Whether you are planning new construction or modernizing old shipping facilities, ROWE offers a large selection of low cost dock or truck ramps that will enable you to improve the efficiency of your loading or unloading operations.

Write for a free copy of the ROWE booklet detailing equipment available.

ROWE METHODS, INC.
2535-I DETROIT AVENUE CLEVELAND 13, OHIO

For more details circle NED-96 E4 on enclosed inquiry slip

THE FASTEST, EASIEST WAY TO ADDRESS YOUR CONTAINERS



Pictured here is the WEBER DIRECT-TO-CONTAINER SYSTEM. The cartons have been pre-printed with a label frame. Consignee's address is printed inside the frames with a WEBER RJ-1 hand printer at the rate of 40 to 50 cartons per minute. Eliminates labels. Faster, neater than brush stenciling. The RJ-1 prints from stencil easily prepared on typewriter. Reservoir holds enough ink for 7,500 to 10,000 prints. Can be supplied with one or two counters for quantity check.

MODEL RJ-1 $14.50 WITH SUPPLIES.

SEND FOR FOLDER ON THE RJ-1 HAND PRINTER AND DIRECT-TO-CONTAINER SYSTEM

Weber Label and Marking Systems, Div.—Weber Addressing Machine Co., Dept. NE-8 Mt. Prospect, Ill.

another Weber *system*

▲ For more details circle **NED-97 E4** on enclosed inquiry slip ▲

CONVEYOR SCREEN BAKE OVEN with built-in purging system to handle aluminized cathode ray tubes

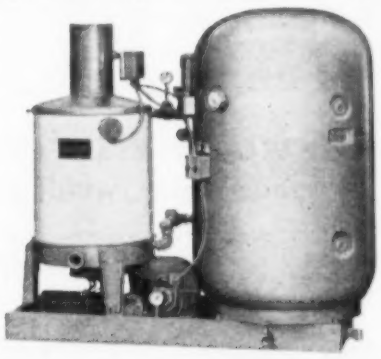
This electric conveyor screen bake oven for handling aluminized cathode ray tubes is constructed in nine sections, each 9 ft 6 in. long and features a built-in purging system. Temperatures are regulated so that purging air blown into tube is same temperature as corresponding air in that section of the oven. Heating system is recirculated air type with heating sections individually controlled. Conveyor speed is variable with mean of about 14 ipm. At this speed oven will bake 63 tubes per hour.

Inside oven dimensions are 51 x 84½ in. x 85 ft 6 in. long. Overall length is 105 ft. Operating power necessary to bring oven up to 400° C is from 330 to 480 kw. Conveyor flights will carry 21, 24, 27 and possibly 30-in. tubes, two abreast. For smaller tubes, setup can be converted for carrying three abreast. Made by **Steiner-Ives Co.,** 431 Springfield Rd., Union, N. J.

▲ For more details circle **NED-100 E4** on enclosed inquiry slip ▲

WATER HEATERS deliver water at two separate temperatures simultaneously

High capacity water heaters made in gas-fired, AGA-approved and oil-fired, UL-approved models can deliver water at two separate temperatures simultaneously, as selected. Optional valve automatically blends high temperature water with cold water to maintain any desired temperature in low temperature line. High velocity forced recirculating system maintains flow of water through heating coil.



Combustion chamber is water wall formed by continuously wound tubing and heat resistant liner. Heat absorbed in water wall and liner is carried away by water as it flows from combustion chamber to main heating coils. Net effect of design is rated thermal efficiency of 80 per cent. Optionals are copper or steel heating coils, corrosionproof lined Perma-Tank or unlined steel storage tank (140-gal), or complete heater assembly without tank. Made by **Clayton Mfg. Co.,** Dept. N, P. O. Box 550, El Monte, Calif.

▲ For more details circle **NED-101 E4** on enclosed inquiry slip ▲

ZIP OFF

with AURAND CLEANING TOOLS

Get the time and money-saving facts

AURAND rotary chipping action quickly, easily, *thoroughly* removes scale, paint, rust, and other accumulation from any hard surface. Renewable cutter heads and fool-proof cutting depth adjustment allow the unskilled operator to produce perfectly clean surfaces. Available in electric or pneumatic models. Write today for further information on cleaning your iron, steel, brick, concrete, and other hard surfaces.

WRITE TODAY TO DEPT. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

▲ For more details circle **NED-103 E4** on enclosed inquiry slip ▲

NO DOWNTIME *in over a year using a* PLATECOIL *in a parkerizing tank*

REPLACES PIPE COIL

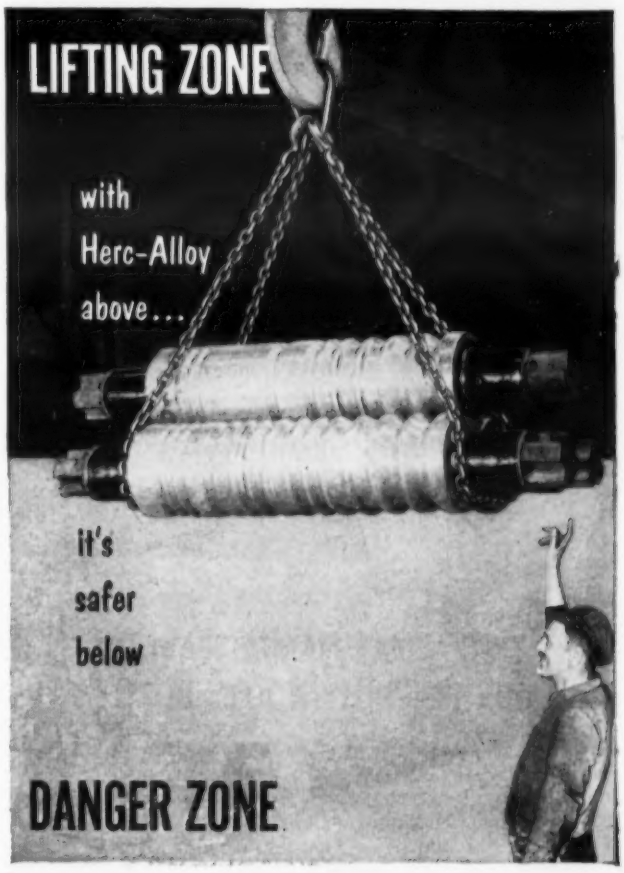
The only time this Platecoil was removed in over a year was to take its picture. The single 22" x 23" Platecoil has heated a 100-gallon Parkerizing tank, in daily use, *without downtime* at the Lycoming Spencer Division of Avco Corp. Built of Electro-Polished Stainless Steel, the Platecoil has required no cleaning or repairs. Platecoils will replace pipe coils at a savings in any heat transfer application.

Send for complete technical manual and descriptive Bulletin No. P57.

PLATECOIL Division Tranter Mfg. inc. LANSING 4, MICHIGAN

▲ For more details circle **NED-98 E4** on enclosed inquiry slip ▲

LIFTING ZONE



SPECIFY HERC-ALLOY SLING CHAINS

Write for Data Book

The Allegheny Ludlum Steel Corp., pictured above, uses Herc-Alloy Sling Chains for hundreds of tough lifting jobs in its plants. In addition to maximum safety, Allegheny Ludlum also enjoys the extra economy of longer-lasting Herc-Alloy. These sling chains offer still another advantage...a weight reduction unmatched by any other alloy chain without any sacrifice in tensile strength. This reduces worker fatigue. All things considered, don't you think Herc-Alloy Sling Chains are worth a try in your plant.

HERC-ALLOY Sling Chains are registered by individual serial number and can be rebuilt or replaced at any time to original specifications.

COLUMBUS McKINNON CHAIN CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: McKINNON COLUMBUS CHAIN LIMITED, ST. CATHARINES, ONT.

▲ For more details circle **NED-104 E4** on enclosed inquiry slip ▲

Wolverine Heavy Duty QUICK ACTION TOGGLE CLAMPS

Extra CLEARANCE
Extra SPEED

Rugged construction—drop forgings, cast steel and solid bar stock.

• • •

Wolverine Toggle Clamps also available in several types and sizes of Standard Action and Push Action units.

• • •

Wolverine Clamps are in use in almost every major industrial field and are specified by prominent engineering firms. Write for Bulletin.

WOLVERINE TOOL CO.
1482 E. WOODBRIDGE
DETROIT 7, MICHIGAN

▲ For more details circle **NED-99 E4** on enclosed inquiry slip ▲

HEAVY DUTY TOLEDOS ... up to 9 unit weights ...easy-to-operate rotary control

Now you can have as many as 9 unit weights—each equivalent to the dial—in the new Toledo cabinet heads! This means a dial as low as one-tenth total capacity of scale can provide wide indicator travel on small loads, without sacrificing high total capacity for the scale. A convenient rotary control operates the unit weights—no lever to lift. Available in heavy-duty floor, built-in, hopper, monorail, motor truck and other types.

Many more new features in great new line of Industrial Toledos . . . 44 ways better! Send for new catalog. Toledo Scale Co., Toledo 1, Ohio.

TOLEDO®
HEADQUARTERS FOR SCALES

▲ For more details circle **NED-102 E4** on enclosed inquiry slip ▲

Tough Babies!

THEY DEFY ROUGH HANDLING!

LOWER COST Material Handling favors these rugged items! Mill-box above features steel compound Top rail (see inset) and Bulge corners, both extraordinary wear-resisting. Note slat reinforcing and non-jamming "nesting limits"

BOTH BUILT BY "BAL" BUILT WITH A CONSCIENCE FOR MATERIAL HANDLING

Nesting tote boxes at right, also built with handles and strongly reinforced all-fibre; hard, vulcanized for severe usage.

ALSO HARD VULCANIZED FIBRE TRUCKS, DRUMS, SPECIAL CASES.

• *Write for Catalog!*

WILLIAM BAL CORPORATION
11 Johnson St, Newark 5, N. J.

▲ For more details circle NED-105 E4 on enclosed inquiry slip ▲

TWO GREAT NAMES TEAM UP TO ELIMINATE "BUSY-DOOR" BOTTLENECKS

● Doors are necessary but when they slow down traffic and interrupt the smooth flow of materials and parts, they become costly. Here Westinghouse and Stanley team up to eliminate such "busy-door" bottlenecks. Stanley Magic Door Controls make doors open and close automatically. Their operation requires a dependable source of regulated air pressure . . . this is supplied, in thousands of installations, by Westinghouse Air Compressors.

The Westinghouse Air Compressors are set to operate between 60 and 80 lbs. of pressure. When the pressure drops below the lower limit, the motor starts, builds up pressure to 80 lbs. and automatically shuts off. This reserve air supply, and the dependability of the Westinghouse Air Compressor assure the air you need when you need it.

Westinghouse Air Compressors come in a variety of sizes to meet every type of air requirement. For more information about Westinghouse Air Compressors call your local dealer.

Westinghouse Air Compressors

The compressor plant shown here was selected by Stanley as the most economical and efficient to operate their Magic Doors. Whether your air requirements are large or small, there's a Westinghouse Air Compressor in the proper size to handle the job.

Westinghouse Air Brake COMPANY

INDUSTRIAL PRODUCTS DIVISION WILMERDING, PENNA.

Manufacturers of air compressors, pneumatic cylinders, actuators, air control devices, engineered pneumatic control systems and front end loaders.

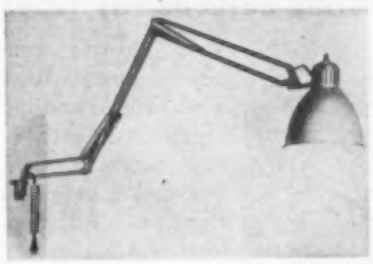
Factory Branch: EMERYVILLE, CALIF.

Distributors throughout the United States . . . Consult your Classified Directory.

Distributed in Canada by: Canadian Westinghouse Co. Ltd., Hamilton, Ontario.

▲ For more details circle NED-106 E4 on enclosed inquiry slip ▲

ADJUSTABLE LAMP affords total radius of 60 in.



Wall mounted model L-3 adjustable lamp has a triple extension arm comprising a fixed, free-swinging horizontal member from the wall joined to twin medium length extension arms. It is readily positioned to give exact quantity of illumination needed for assembly line production or wall-table operations. It weighs approximately 4½ lb, is finished in gray enamel and has nickeled steel springs. Other types of mounting bracket can be used. Made by **Luxo Lamp Corp.**, Dept. NED, 102 Columbus Ave., Tuckahoe, N. Y.

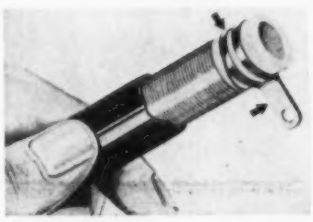
▲ For more details circle NED-107 E4 on enclosed inquiry slip ▲

OSCILLATING SANDER usable on variety of materials

Operating at 50 strokes per second, Gusto line of portable electric oscillating sanders can be used on wood, metal, plastics, plaster, paints and other surfaces. Tool functions efficiently on flat and curved surfaces, in cramped areas and close to edges. Weight is 8 lb. Distributed by **Victor J. Krieg, Inc.**, Dept. C, 611 Broadway, New York 12, N. Y.

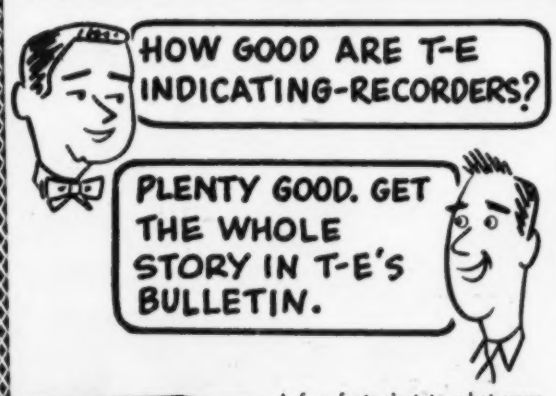
▲ For more details circle NED-108 E4 on enclosed inquiry slip ▲

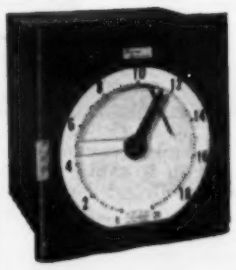
WIRE-WOUND RESISTORS made with welded terminals



Entire line of Ohmite wire-wound resistors is made with the resistance wire welded to the terminal band and the band itself held permanently around the core by means of welding. Permanent connections so produced are not affected by vibration or high temperatures. The stable electrical connection eliminates noise in audio circuits and instability in other sensitive circuits. Terminal bands are made of a high strength alloy whose coefficient of expansion is properly related to that of the resistance wire, ceramic core and vitreous enamel coating. Made by **Ohmite Mfg. Co.**, 3620 Howard St., Skokie, Ill.

▲ For more details circle NED-109 E4 on enclosed inquiry slip ▲





A few facts, just to whet your appetite: T-E recorders come in 2 types — potentiometer pyrometer and resistance bulb thermometer. They handle temperature ranges of −100°F — +600°F up to 0—3000°F, can be adapted easily to measure humidity, solution conductivity, speed, pH, DC, or other variables; they are accurate, rugged, easy to maintain. Want more data?

Write for Bulletin 60 -T.

Thermo Electric Co., Inc.

SADDLE RIVER TOWNSHIP, Rochelle Park P.O., NEW JERSEY

CANADA • THERMO ELECTRIC (Canada) Ltd., BRAMPTON, ONT.

▲ For more details circle NED-110 E4 on enclosed inquiry slip ▲

NOW . . . More Speed At Lower Cost

HOBBS Automatic Production Cutter

Electronic measuring and precise controls give you accurate, automatic, low-cost operation!

Easily handles paper, plastic, cloth, etc. up to 60" wide from extruders, laminators, "in-process" operations, or from rolls and sheets. Feeds, controls, measures and cuts soft "in-process" materials to uniform sheet sizes. Process rate is 10 to 100 feet per minute, depending on length of cut. Material can be accurately slit and cut in one operation, with added slitting attachment. Special feeding and take-away devices available for any production set-up. Get the facts on this new machine—estimate your immediate savings. Write *now* for details.

HOBBS MANUFACTURING CO.
41 SALISBURY STREET
EST. 1888 WORCESTER 5, MASS.

Manufacturers of Modern Converting Machinery

▲ For more details circle NED-111 E4 on enclosed inquiry slip ▲

ONE call can answer ALL your gear and sprocket needs!

. . . when you call on the complete UNION GEAR LINES AND SERVICES

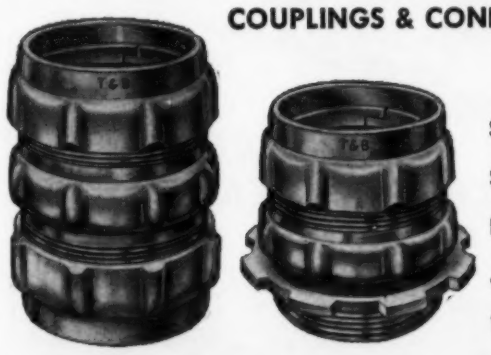
Write today for your copy of our catalog

UNION GEARS

Union Gear & Sprocket Corp. 114-120 Purchase St. Boston, Mass.

▲ For more details circle NED-112 E4 on enclosed inquiry slip ▲

NEW T & B STEEL E. M. T. COUPLINGS & CONNECTORS



stronger, straighter runs *because* they're

LONGER

They're as much as 50% longer than conventional fittings for E.M.T. The extra-long fitting provides a much greater area of firm, rigid support for the tubing wall. Conduit *has* to line up properly. Runs are straighter. Greater length also allows more tolerance when cutting.

All steel construction — body, gland, ring and locknut — is your assurance of uniform strength and dimensional accuracy.

Easy to install. Simply run up gland nut and the entire assembly tightens in place. Same wrench size fits both body and gland hexes. UL Raintight Approved.

Order a supply today for your next job . . . or . . . send to T&B for free samples and additional literature. T416

THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street • Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P. Q., Canada

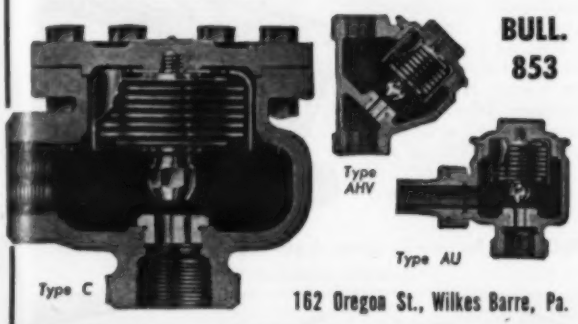
MANUFACTURERS OF FINE ELECTRICAL FITTINGS SINCE 1898

▲ For more details circle NED-113 E4 on enclosed inquiry slip ▲

Nicholson Steam Traps

CUT THIS HEAT-UP CYCLE 40%

An Eastern processor solved the freeze-up problem on their jacketed kettles by replacing mechanical traps with Nicholson thermostatic units. In addition they found heating time was shortened 40%. Credit is given the higher, more even temperatures which Nicholson traps effect. See why leading plants are increasingly standardizing on Nicholsons for faster heat transfer. 5 types: size ¼" to 2"; press. to 250 lbs.



BULL. 853

162 Oregon St., Wilkes Barre, Pa.

W. H. NICHOLSON & CO.

TRAPS · VALVES · FLOATS

▲ For more details circle NED-114 E4 on enclosed inquiry slip ▲

VACUUM CLEANER works from shop air lines

Redesigned model of air-operated industrial vacuum cleaner (*NED—Nov.* '53) has provision for ready use of attachments. These include round and oval rubber and fiber brushes and extension pipes and crevice tools made from either fiber or metal. This choice of materials in the attachments complements the fire and explosionproof operation of the cleaner, which is fabricated from nonsparking materials and has no moving parts. It can be used wherever plant air is available and develops powerful suction to pick up either wet or dry wastes. Hose replaces waste bag for use with liquids. Cleaner can also be used for grading by particle size with the addition of screens or can be installed permanently at dust-producing locations such as belt sanders or grinding machines. Made by **R. P. Bennett Co.**, 43-A S. Carroll St., Frederick, Md.

▲ For more details circle NED-116 E4 on enclosed inquiry slip ▲

5414

HOW DO YOU THREAD A PRECISION HOLE?

If your operation involves precision threading of precision holes, meet the

HAMILTON SMALL HOLE SUPER SENSITIVE PRECISION TAPPING MACHINE

Handles the smallest and finest tap to 10-32 inclusive.

Spindle idles in reverse, changes rotation instantly as pressure is applied to tap, reverses instantly as pressure is released.

Taps to the very bottom of blind holes without risk of tap breakage.

WANT COMPLETE FACTS?

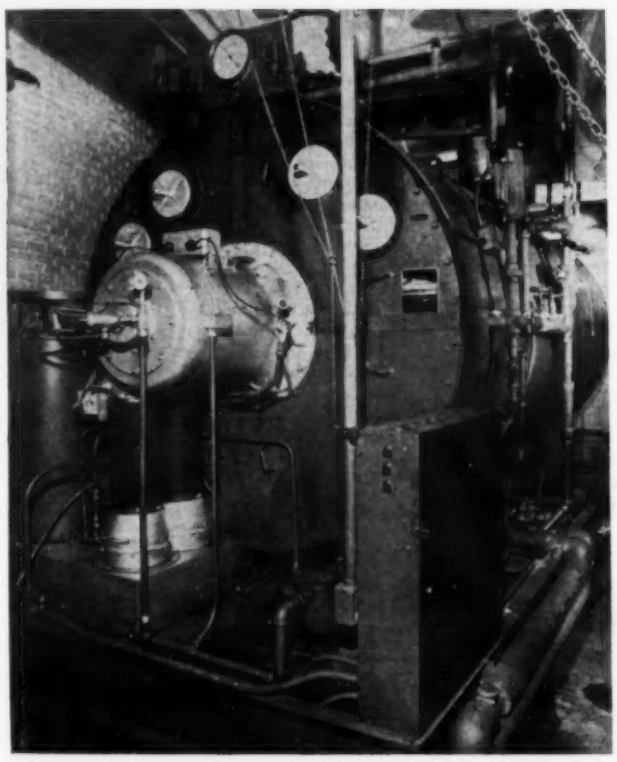
Write for FREE Hamilton Bulletin No. 5414. Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool

USE IT WITH CONFIDENCE

▲ For more details circle NED-119 E4 on enclosed inquiry slip ▲

Steam Costs Go DOWN where Powermasters Go In



For Example:

A large commercial laundry cut its boiler fuel bill 12% by replacing a fire-box boiler with a modern *Powermaster* Packaged Automatic Boiler. Even with 19% more business, boiler room operating costs are now only 4.2% of sales as compared to over 5% with the old boiler. Low-cost space-saving installation, completely automatic operation, higher quality steam, much less attention and maintenance, and smokeless combustion are other advantages gained.

Have You Checked Your Steam Costs Lately:

Many kinds of industrial plants, food processors, schools, institutions, public buildings, laundries, housing projects, and utilities are also enjoying the cost-saving advantages of *Powermaster* boilers.

SEND FOR NEW BULLETIN describing and illustrating all cost-saving advantages of *Powermaster* units.

O&S Powermaster®

PACKAGED AUTOMATIC BOILERS

Sizes to 500 HP; pressures to 250 psi.

Orr & Sembower, Inc.

Morgantown Road, Reading, Pa.

▲ For more details circle NED-115 E4 on enclosed inquiry slip ▲

DRILL POINT GRINDER produces crankshaft type points on up to ⅜-in. diameter drills

Crankshaft points can be ground on drills ranging in size from No. 1 to 50, A through U, and 3/64 through ⅜-in. by this drill point grinder. Crankshaft drill pointing consists of web thinning to produce a pair of secondary cutting lips, and is suited for drilling work-hardening materials, tough alloy steels and for deep hole drilling. Drill is rocked into the wheel to grind one notch, returned, indexed 180 degrees and the operation repeated for the other notch.

Wheel is trued by an adjustable diamond truing device. Tilting fixture makes it possible to sharpen any angle, and flute guiding drill bushings can be supplied for each diameter of drill. Grinder mounts a 6-in. grinding wheel at one end and a 6-in. general utility wheel at the other. Motor is ¼-hp, 110 v, 60 cycles, 3450 rpm. Made by **Union Twist Drill Co.**, Dept. N-1, Athol, Mass.

▲ For more details circle NED-117 E4 on enclosed inquiry slip ▲

ODD LOT JOBS ECONOMICALLY HANDLED

Udylite Handiplater

Here's a compact unit with compound uses. This small-size portable plater eliminates need for tying up full-size equipment with small jobs. Simply plug Handiplater in, pour in some of the solution dipped from your regular tank, and it will start saving you dollars as it efficiently plates the work.

Order today or write Udylite for more information.

- Removable, Koroseal lined, all-steel tub—½ peck capacity.
- Easily changed anode assembly for acid or alkaline solutions.
- Economical • Efficient • Convenient • Compact.

PIONEER OF A BETTER WAY IN PLATING

DETROIT 16, MICHIGAN

THE Udylite CORPORATION

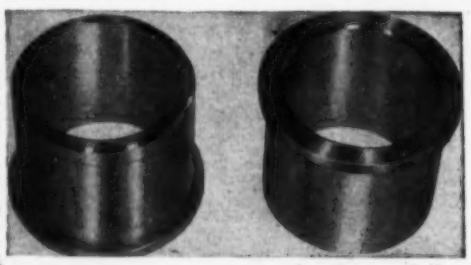
▲ For more details circle NED-118 E4 on enclosed inquiry slip ▲

FOR A MONEY-BACK GUARANTEE OF LONGER SERVICE

Specify PROMET THE Engineered BRONZE

BEARINGS • BUSHINGS WEARING PARTS

Sold only under a rigid guarantee of superior and satisfactory service or a refund of the purchase price upon return—the customer's opinion to be final.



Available in standard and special formulas developed to cope with specific or unusual conditions. Assure the best combination of physical properties, strength in tension and compression, hardness, and ability to sustain both static and dynamic loading.

Protect the shaft or other moving parts from injury, scoring, and seizing due to temporary interruption or failure of lubrication, and at the beginning and end of a run, when the speed of rotation is insufficient to maintain the oil film.

Will not powder under the most severe conditions of service. Available rough cast or machined to precisely controlled tolerances. They can be machined at surface speeds up to 875 lineal feet per minute. Castings to your patterns—any size, shape or section—delivered as scheduled and specified. Pattern making, designing and machining when required.

Write today for free literature and service data sheets. Send blueprints, conditions of operation and other data for recommendations and quotations. You are invited to discuss your bearing problems with our metallurgists, engineers, and laboratory technicians.

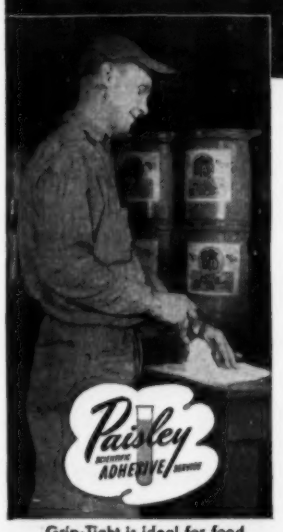
THE AMERICAN CRUCIBLE PRODUCTS CO.

"Bearing Specialists Since 1919"

1327 Oberlin Avenue • Lorain, Ohio, U.S.A.

▲ For more details circle NED-120 E4 on enclosed inquiry slip ▲

HOLD LABELS SECURELY!.. TO TIN, METAL, GLASS



Grip-Tight is ideal for food, chemical, paint cans

GRIP-TIGHT Label Paste, the time tested resin emulsion paste, for hand brushing, definitely holds paper labels smoothly, easily, permanently to hundreds of surfaces and materials including: tin cans, metal pails, steel drums, lacquered, painted, varnished surfaces, glass bottles, metal parts, etc.

Use it for attaching product labels, instruction and caution labels, Express Waybills, circuit diagrams.. this *ONE* adhesive may do all your labeling work.

Fill in coupon for further details or send for trial shipment today.

MAIL THIS COUPON TODAY!

Gentlemen: Please ship F.O.B. Chicago or New York, the following trial order ON APPROVAL. Invoice to be cancelled if merchandise not satisfactory.

____Quart Jars Grip-Tight at $1.50 ea.
____Gallon Jars Grip-Tight at $4.00 ea.
☐ Send Technical Bulletin describing Grip-Tight and complete price schedule.

Name ____
Address ____
City ____ State ____

PAISLEY PRODUCTS INCORPORATED

Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products

1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 630 W. 51st STREET, NEW YORK 19, N. Y.

▲ For more details circle NED-121 E4 on enclosed inquiry slip ▲

Try Them Free!

KEPS

TESTING SAMPLES

See how this amazing new Shakeproof fastening saves assembly time and assures vibration protection. A SHAKEPROOF® Lock Washer of the right size and type is pre-assembled on each nut . . . only one unit to handle . . . the lock washer can't drop off . . . every nut is certain to be locked tight.

SEND FOR YOUR FREE KIT OF KEPS TESTING SAMPLES TODAY!

SHAKEPROOF®

"Fastening Headquarters"

Division of Illinois Tool Works
St. Charles Road, Elgin, Illinois

For more details circle NED-123 E4 on enclosed inquiry slip

NOW you can copy HALFTONES as well as LINE WORK by

XEROGRAPHY

ONTO PAPER MASTERS FOR DUPLICATING

Photo above shows paper master of line and halftone subject prepared by xerography in XeroX® Lith-Master* copying equipment with the new XeroX Tone Tray. Copies run off on offset duplicator from paper master are also shown.

Use of the new Tone Tray in preparing offset paper masters offers a quick way of providing a few, or many copies of material containing line work and halftones at costs considerably less than conventional methods.

Xerography is used by companies of all kinds, large and small, in thousands of applications copying forms, letters, charts, bulletins, sales manuals, engineering drawings, price lists, etc., for duplicating. Anything written, typed, printed or drawn can be copied onto paper masters by xerography with XeroX Lith-Master copying equipment.

Write for complete information on what xerography can do to cut your duplicating costs.

*A TRADEMARK OF THE HALOID COMPANY

THE HALOID COMPANY

54-60X HALOID STREET • ROCHESTER 3, NEW YORK

BRANCH OFFICES IN PRINCIPAL U. S. CITIES AND TORONTO

XEROGRAPHY

THE FASTEST, CHEAPEST, MOST VERSATILE WAY TO MAKE MASTERS FOR DUPLICATING.

For more details circle NED-124 E4 on enclosed inquiry slip

AIR/WATER WASHING GUN now available with insulated grip

Extruded composition rubber sleeve slides over the handle of the Hydro-Air pressure washing gun (*NED—July* '51) to protect user's hand from the heated metal when cleaning or rinsing with hot water. Washing gun, which connects to standard air and water outlets, breaks water stream into small particles which are then carried under pressure to the work. Made by **D & M Products, Inc.**, 28 N. Raymond Ave., Pasadena 1, Calif.

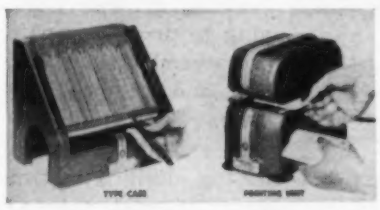
For more details circle NED-125 E4 on enclosed inquiry slip

FLOODLIGHTS in 300-500 w and 750-1000 w lines

A one-piece cast aluminum housing is now used in redesigned 7140 and 7190 floodlights. Former are rated 300 to 500 w, latter, 750 to 1000 w. Wire enters through squeeze bushing to assure complete weatherproof construction. These narrow beam floodlights have focusing mechanism and are available with clamp or five spring toggle hinged rings and clear, stippled or ribbed lens for maximum light control. Flat base and clamp mountings are available. Made by **Revere Electric Mfg. Co.**, 6031 Broadway, Chicago 40, Ill.

For more details circle NED-126 E4 on enclosed inquiry slip

TAG & LABEL PRINTER handles 1000 impressions per hour



Over 200 characters on 11 separate lines can be imprinted with a single impression on individual tags, labels and forms by the American Jiffy Print machine. A small type rack holds 42 rows of separate type characters which are picked out by a typefork and placed in the printing head. Type is reuseable, but is cheap enough that it can be thrown away rather than redistributed after use. Machine is hand fed and automatically prints up to 1000 tags per hour. Numbering wheels can be added and an automatic counter is available. Made by **American Tag Co.**, Dept. 59JP, 151 Cortlandt St., Belleville 9, N. J.

For more details circle NED-127 E4 on enclosed inquiry slip

PAGE FENCE—Since 1883

• AMERICA'S FIRST WIRE FENCE •

EVERY STEP IS QUALITY CONTROLLED—FROM RAW METAL TO THE ERECTED FENCE

• Page *Chain Link* Fence, pioneered by PAGE and produced only by PAGE, offers reliable protection against hazards which threaten both property and persons.

YOUR CHOICE OF THREE SUPERIOR METALS is assurance that your fence will best meet your needs. Choose heavily-galvanized Copper Bearing Steel, or long-lasting Stainless Steel, or corrosion-resisting Aluminum. Interlocking wires are woven to form a strong, uniformly square mesh.

EIGHT BASIC STYLES, varied by choice of metals, wire gauges, heights, types of gates, posts and post tops, and top rails. Tension and fabric bands not removable from outside. Gate frames welded at joints.

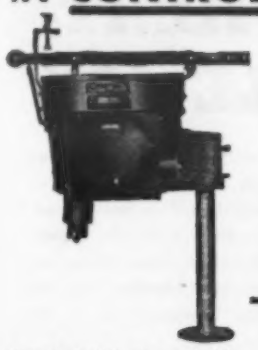
IT'S TIME TO THINK, AND ACT. Page Fence is expertly erected by technically trained firms conveniently located throughout the country. For illustrated PAGE data and name of nearest firm . . .

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

For more details circle NED-128 E4 on enclosed inquiry slip

FOR DISPENSING MELTED WAX IN CONTROLLED AMOUNTS



Sta-Warm thermostatically controlled "CN" pots of 2-4-8 qt. and up to 25 gal. sizes will heat and store melted wax, dispensing a drop or two (or a small stream) as desired through needle valve orifice. Single phase 110 or 220 v.

"CN" dispensing tanks of 5-10-15-25 gal. also available in other voltages.

Hand held electrically heated wax dropper of ½ or 1 pt. or 1 qt. capacity is used for direct application to work. Needle valve dispenser. Ideal for laboratory as well as production line use. 110 or 220 v., A-C or D-C with 150 step rheostat temperature control.

INQUIRE for catalog sheets describing the complete line of Sta-Warm wax melters.

Sta-Warm ELECTRIC CO.

130 N. CHESTNUT ST., RAVENNA, OHIO

For more details circle NED-129 E4 on enclosed inquiry slip

G-E CLF FUSES

Greater Protection from Short Circuits and Resultant Let-through Energy

General Electric high-interrupting-capacity fuses, Type CLF, provide efficient and economical short-circuit protection for feeders, branch circuits, motor starters, control power circuits, and similar low-voltage applications where conventional NEC fuses do not have sufficient interrupting capacity. General Electric CLF fuses not only isolate faulty apparatus or circuits before other elements in the system are affected, but they protect the devices from let-through energy associated with short circuits.

External dimensions meet requirements of National Electrical Code and Underwriters' Laboratories, Inc., "Standard for Fuses." Type CLF fuses are available in both 250 volts and 600 volts with ampere ratings of 6, 15, 20, 30, 40, 60, 80, 100, 150, and 200.

For more information write Section D128-561, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

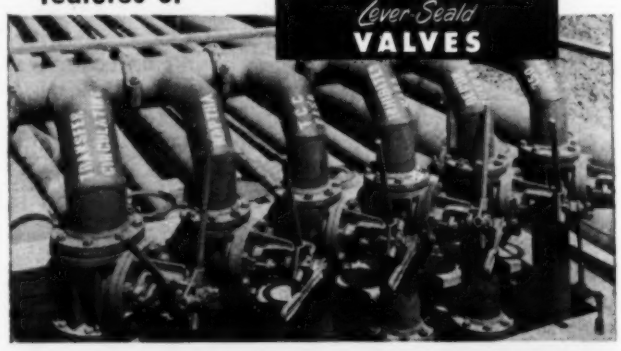
GENERAL ELECTRIC

For more details circle NED-130 E4 on enclosed inquiry slip

★ positive, DROP-TIGHT shut-off

★ instant STICK-PROOF operation

built-in features of HOMESTEAD Lever-Seald VALVES



Wherever you have corrosive, erosive, viscous, or volatile hard-to-hold fluids, those are the jobs on which you want to use Homestead Lever-Seald Valves. The powerful lever and screw device built into each valve, firmly seats the valve or relieves seating pressure just enough to overcome friction and allow the plug to turn easily.

That's why Lever-Seald Homestead Plug Valves cannot stick or seize; and also why they afford positive shut-off under all conditions. Protection of all vital operating parts and sealing surfaces from corrosive or erosive effects of line fluids is further guarantee of their long service life and extremely low maintenance.

Homestead Lever-Seald Valves are cast in semi-steel, steel, stainless, bronze, or other specified metals; sizes 1½" to 12" for pressures up to 1500 pounds.

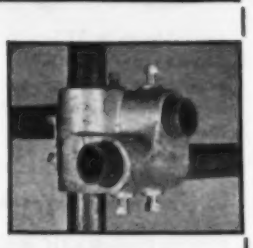
Send for details and copy of VALVE REFERENCE BOOK No. 39-3.

HOMESTEAD VALVE MANUFACTURING COMPANY

P. O. Box 84 "Serving Since 1892" Coraopolis, Pa.

For more details circle NED-131 E4 on enclosed inquiry slip

Make your own ADJUSTABLE SCAFFOLDS and MATERIAL RACKS with AMIDON FITTINGS



Many firms and institutions are saving thousands of dollars in labor and material costs by making their own adjustable storage racks and maintenance scaffolds with Amidon Fittings and standard 1-inch new or used pipe.

AMIDON ENGINEERING CO.
ELYRIA 20, OHIO

▲ For more details circle **NED-132 E4** on enclosed inquiry slip ▲

FREE LUBRICATION SURVEY OF YOUR PLANT

Eliminate bearing failures like this
(due to haphazard lubrication)

An experienced Farval engineer will come into your plant and conduct a Free Lubrication Survey of your equipment. This Farval Survey will tell you:

1 The most economical method of lubrication for each piece of your equipment.

2 Whether centralized lubrication can be installed on your present equipment.

3 The cost to you of a Farval centralized system of lubrication on any or all pieces of machinery.

4 How centralized lubrication can increase bearing life, save you maintenance costs and increase production.

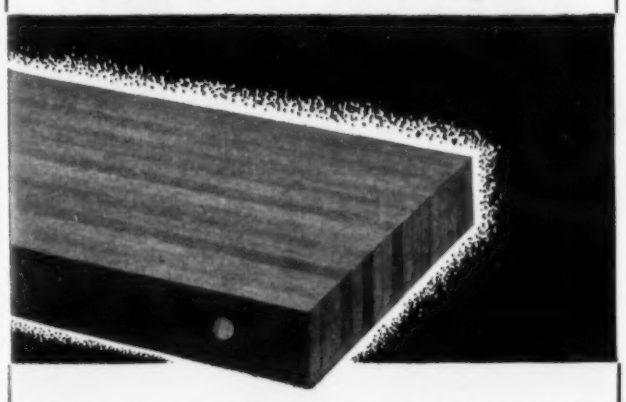
These are facts that can save you thousands of dollars! A Farval engineer is ready to serve you promptly. This is a Free Survey—no obligation. Write today!

THE FARVAL CORPORATION
3283 East 80th Street • Cleveland 4, Ohio

Affiliate of The Cleveland Worm and Gear Company, Industrial Worm Gearing

▲ For more details circle **NED-133 E4** on enclosed inquiry slip ▲

LAMINATED BENCH TOPS edge grained hard maple

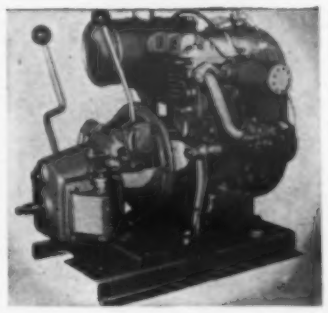


Tolco tops are manufactured from select pieces of edge grained, hard northern maple. Narrow ¾" maple laminations are electronically glue welded into a homogeneous solid mass. Twice as many laminations, twice as much adhesive means maximum wearability with minimum moisture absorption and warpage. Reinforced with concealed steel tie rods. Finished with non-toxic sealers and lacquers. Tolco tops save on tools and assembly parts. Sizes range from 1¼" to 3" thick, up to 12 feet long and 36" wide. Write for complete information and prices.

THE TOLERTON COMPANY
P.O. Box M658 Alliance, Ohio
Established 1894

▲ For more details circle **NED-134 E4** on enclosed inquiry slip ▲

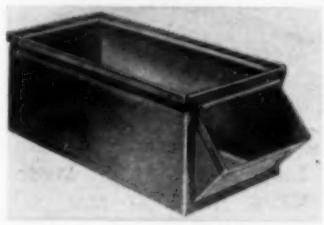
SMALL ENGINE POWER UNIT develops 6.0 hp at 3200 rpm



Gasoline engine with bell housing side plate, automotive or manual straight line drive clutch and directly attached transmission with three speeds forward and one reverse, comprise this small power unit. Although designed around the Husky model M8, 17.8 cu in. displacement, four-cycle, single-cylinder air cooled engine which develops 6.0 hp at 3200 rpm, clutch and transmission components can also be used with Husky model M6 rated at 3.2 hp or model M7 rated at 4.6 hp. Clutch is single disk dry type with manual release. Unit is suitable for powering winches, garden tractors or automotive type vehicles. Made by **Cushman Motor Works, Inc.**, 980 N. 21st St., Lincoln 1, Nebr.

▲ For more details circle **NED-135 E4** on enclosed inquiry slip ▲

STACKING BIN facilitates small parts handling



Fast handling of small parts is facilitated with style 900D stacking bin. Unit features reinforced corners, drop handle back of bin, spotwelded construction, four rivets for extra strength and continuous stacking rim on all four sides. It will stack with style 800D stacking box of same length and width. Made by **Bay Products, Inc.**, 3009 N. Sixteenth St., Philadelphia 32, Pa.

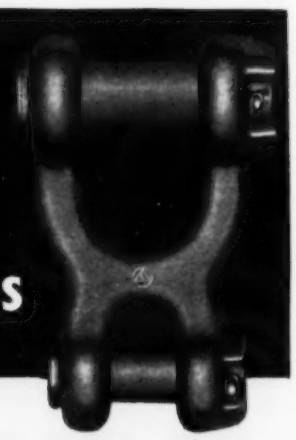
▲ For more details circle **NED-136 E4** on enclosed inquiry slip ▲

IGNITION TACHOMETERS for stationary, mobile gas engines

Of the two ignition tachometers being offered, model 108 is intended for panel mounting on stationary or mobile gas engines. It has flange mount and fits into 3½-in. diameter hole. Model 107, shown in photo, can be used on autos, boats and stationary engines and mounts on ⅛-in. screw hole. Both units are available in 0 to 3000 or 0 to 5000 rpm ranges. Accuracy is 5 per cent. Model 108 has black plastic front with spun metal housing. Dial is available with black letters on white background or vice versa. Made by **Electro-Mechano Co.**, 2611 E. Erie St., Milwaukee 2, Wis.

▲ For more details circle **NED-137 E4** on enclosed inquiry slip ▲

MAKE INSTANT CHAIN CONNECTIONS



NEW!

LAUGHLIN Double Clevis Link

• DOUBLE CLEVIS LINK

Connects chain to links, rings, hooks. Make slings, hitches, repairs in the field • **no welding - no blacksmith work**

FAST - SAFE - EASY No special tools needed; just remove cotter and bearing pins, attach clevis and replace pins. New exclusive cotter guard protects your hands. Stronger than proof coil, BBB and high test chain.

1/4", 5/16" • 3/8", 7/16", 1/2" sizes.

WRITE FOR CATALOG 155, showing complete line of 1500 types and sizes of drop forged wire rope and chain fittings.

THOMAS LAUGHLIN COMPANY
519 FORE STREET, PORTLAND, MAINE

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5417

This GEAR HOBBER delivers EXTRA PRECISION

The Hamilton Precision Gear Hobber generates small, fine pitch gears to 6" O.D. of the gear blank. Alignment and trueness of all spindles held to less than .0002".

WHAT'S MORE

Independent selection of speed, feed, and indexing speeds machine set-up and provides a means for matching cutting speed and work feed to the material being machined.

WANT ALL THE FACTS?

Write for Hamilton Bulletin No. 5417. Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

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Fast Movers or Shelf Warmers?

Count BOTH
(and 1,001 Other Items)
with this
VARY-TALLY
Multiple-Unit Reset Counter

Vary-Tallies help you separate the sheep from the goats, the big ones from the little ones, the red ones from the green ones — in manufacturing, sales, accounting, researching and what not!

Vary-Tallies will do *any* counting job you want in any combination up to 6 banks high, 12 units wide (with a minimum of 2 units wide). Yes, you can count on 'em or with 'em *to your profit* — note these features of construction:

- Easily Readable from Any Angle . . . Bold figures Always Centered in Window . . . No Glare . . . Figures not Covered by Fingers in Operation
- Easily Portable, yet Ruggedly Built for Long Wear
- All Parts Corrosion-Resistant; Working parts of Hardened Steel
- Separate Counting Units Can be Rotated like Tires on a Car, to Distribute Wear Evenly
- Not Affected by Extreme Heat or Cold
- Individual Tag Above Each Counter-Window — Not Strip Tabs
- Veeder-Root Quality in Every Part

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONNECTICUT

Chicago 6, Ill. • New York 19, N. Y. • Greenville, S. C.
Montreal 2, Canada • Dundee, Scotland
Offices and Agents in Principal Cities

"The Name that Counts"

▲ For more details circle **NED-140 E4** on enclosed inquiry slip ▲

Yours—Guardian's New SOLENOID BULLETIN just off the press! Get your free copy describing the complete new Guardian line of AC and DC Solenoids (Continuous and Intermittent Duty) with Operating Data and dimensional drawings. Adjustable plunger strokes vary, to specification, from 1/16 inch up to 2 inches, lifting any required weight of less than 1 oz. up to 9 lbs. New, compact "Power Type" Solenoids feature laminated coils that provide a *big lift* for a positive, fast, full stroke. Guardian will gladly work with you on your experimental projects where solenoids are used singly or in combination with Steppers, Relays, Switches and other electrical components.

NO. 16 A. C. SOLENOID

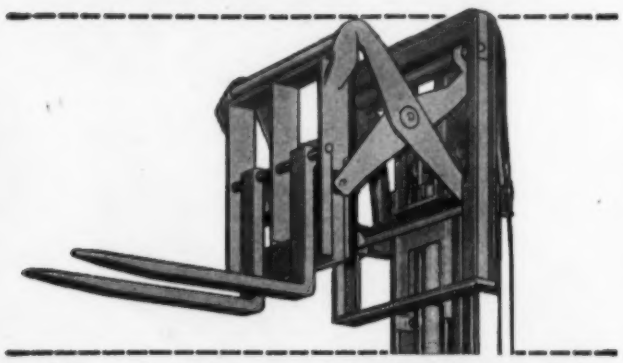
NO. 14 A. C. SOLENOID

WRITE or wire today for your Free Copy of this New 8-Page Guardian SOLENOID BULLETIN "SOL-8" including the new Power Types.

GUARDIAN ELECTRIC
1626-F W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

▲ For more details circle NED-141 E4 on enclosed inquiry slip ▲

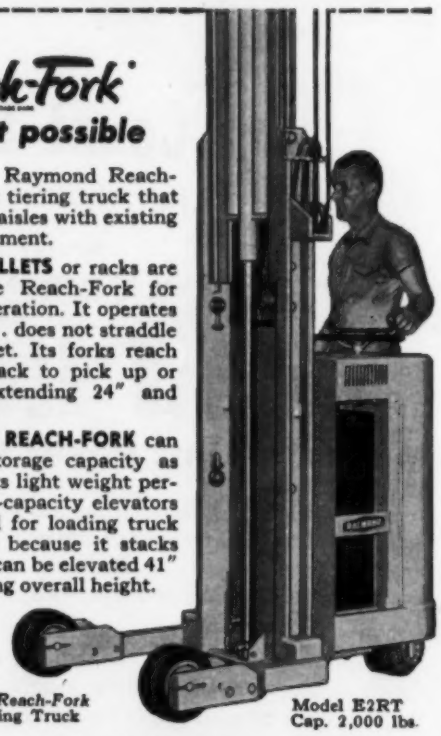
6 FT. AISLES Now you can have them . . .



without obsoleting your present racks or pallets

RAYMOND

Reach-Fork makes it possible



IT'S TRUE! The Raymond Reach-Fork is the only tiering truck that operates in 6-ft. aisles with existing warehouse equipment.

NO SPECIAL PALLETS or racks are required by the Reach-Fork for close-quarter operation. It operates from the aisle . . . does not straddle the bottom pallet. Its forks reach right into the rack to pick up or deposit load, extending 24" and back in seconds.

THE RAYMOND REACH-FORK can increase your storage capacity as much as 50%. Its light weight permits use on low-capacity elevators and floors. Ideal for loading truck trailers, boxcars because it stacks pallets closely—can be elevated 41" without increasing overall height.

RAYMOND Reach-Fork Electric Tiering Truck — Model E2RT Cap. 2,000 lbs.

Reach-Fork is equipped with new Raymond power unit that opens like a book for fast, easy servicing. All parts housed behind hinged double doors . . . nothing under unit to inspect but the wheels. * PATENT NO. 2,564,002

RAYMOND

ELECTRIC INDUSTRIAL TRUCKS HYDRAULIC ELEVATING EQUIPMENT

MAIL COUPON TODAY

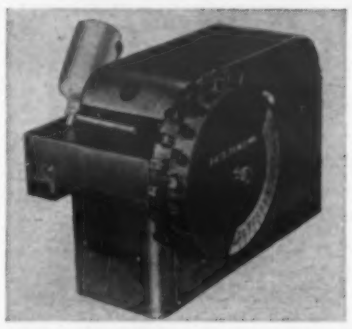
The RAYMOND CORPORATION
4131 Madison St., Greene, N.Y.

( ) Please send me latest Reach-Fork Bulletin.
( ) Please have your representative call.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle NED-142 E4 on enclosed inquiry slip ▲

ELECTRIC TAPE DISPENSER
cuts, moistens and delivers tape



All widths of standard or reinforced gummed tape from 1 to 4 in. are fed by this 200E electric Clip-A-Tape dispenser which cuts tape to any length from 3 to 105 in. and moistens and delivers it at touch of a push button. Features include tape weight swivel that eliminates jamming, thermostatically controlled water heating unit, and self-sharpening tool-steel blades. Parts subject to rust and corrosion are of stainless steel. Made by **Ideal Stencil Machine Co.**, Dept. NED, 134 Iowa Ave., Belleville, Ill.

▲ For more details circle NED-143 E4 on enclosed inquiry slip ▲

POCKET SCRIBER
carbide tip gives long life

Carbide point of this scriber gives it a long service life and stays sharp for long periods without repointing. Tool is fitted with a pocket clip for convenience, has a solid aluminum handle and point protecting cover. List price is $1.35. Made by **Wendt-Sonis Co.**, Dept. NE-1, Hannibal, Mo.

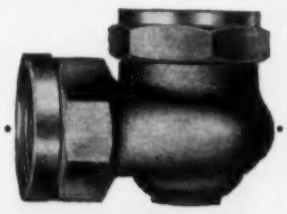
▲ For more details circle NED-144 E4 on enclosed inquiry slip ▲

INDUSTRIAL ENGINE
4-cylinder model develops 61 hp

The 3.90-in. bore of this 172-cu in. four-cylinder industrial engine is combined with a short 3.60-in. stroke to reduce piston travel, friction and fuel costs. Engine develops 61 bhp at 2800 rpm. Design incorporates a deep-skirt crankcase for rigidity, molded alloy iron crankshaft and free-turn intake and exhaust valves to permit even wear. Ignition and distributor are sealed against moisture and dust. Full-flow oil filter with full pressure lubrication, autothermic pistons with steel struts for controlled piston-to-sleeve clearance and lubricated variable speed governor are other features. Made by **Ford Motor Co.**, Ford Div., P. O. Box 638, Dearborn, Mich.

▲ For more details circle NED-145 E4 on enclosed inquiry slip ▲

SPRAYING SYSTEMS CO.



for lower cost

and better performance

SPRAY NOZZLES

Modern design. Precision machining. All materials. Thousands of standard industrial spray nozzle types and sizes to choose from. Years of proved experience at your service.

write for this great new catalog today

Ask for our new 48 page Catalog No. 24 . . . the most comprehensive spray nozzle catalog ever produced. Yours for the asking.

SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

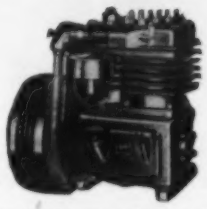
▲ For more details circle NED-146 E4 on enclosed inquiry slip ▲

GET MORE PRODUCTION PER MAN HOUR

with the Help of Dependable Efficient

Curtis

Air Compressors



Available up to 320 cu. ft. Can be supplied base mounted up to 50 H.P. or tank mounted up to 15 H.P. Timken bearing equipped . . . precision built.

Air Cylinders and Hoists

To lift, lower, push, or pull

Pendant air hoist is ideal for lifting or lowering—Bracketed Air cylinder can be mounted in any position for lifting, lowering, pushing or pulling.

For more information write to:

CURTIS PNEUMATIC MACHINERY DIVISION of Curtis Mfg. Co.
1979 Kienlen Avenue • St. Louis 20, Missouri 784

100 Years of Successful Manufacturing Experience

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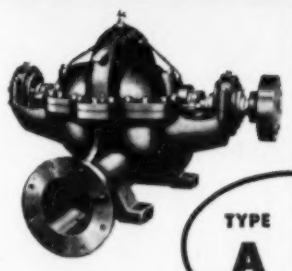
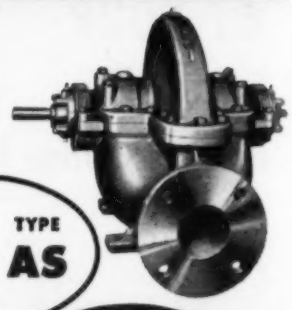
SPLIT-CASE BOOSTER PUMPS

Packing Gland and Mechanical Seal Types

WIDEST RANGE OF CAPACITIES, HEADS & HP IN ONE OF AMERICA'S MOST COMPLETE LINES

PACKING GLAND CONSTRUCTION | MECHANICAL SHAFT SEAL CONSTRUCTION





TYPE A — TYPE AS

A Up to 70,000 gpm Up to 300 ft. head

AS Up to 750 gpm Up to 230 ft. head

Request Bulletins:
Bulletin No. B-1300 for Type A;
Bulletin No. B-1350 for Type AS

PEERLESS PUMPS

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION
301 West Avenue 26, Los Angeles 31, Calif. • New York; Indianapolis; Chicago; St. Louis; Atlanta; Dallas; Phoenix; Los Angeles, Fresno, Calif.

▲ For more details circle NED-148 E4 on enclosed inquiry slip ▲

DON'T LET **Dirty Oil** TEAR THE HEART OUT OF YOUR MACHINERY . . .

. . . use NUGENT PRESSURE FILTERS!

PROTECT your equipment from the ravages of improperly filtered oil. Use Nugent Pressure filtering—a fast, economical method of assuring a constant supply of clean cool oil for vital parts. In addition to longer machine life, savings in oil by this method run as high as 99.8%. Write for complete information.

NUGENT TRADE MARK Est. 1897

Wm. W. Nugent & Co., Inc.
401 N. Hermitage Ave. CHICAGO 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . *Representatives in Principal Cities*

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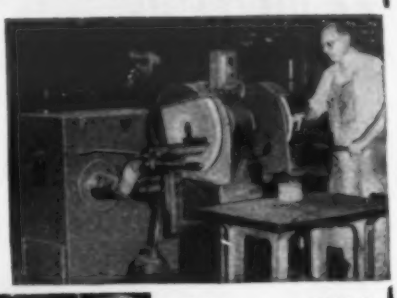
STOP DUST INSTANTLY WITH DUSTKOP

300 cfm to 10,000 cfm standard pre-tested units available in stock

- LOW COST
- IMMEDIATE INSTALLATION
- SAVES HEAT
- PORTABLE



2405 ◀ cfm 1400▲ cfm

DUSTKOP

WRITE FOR

- RECOMMENDATION *about your dust problem. No obligation*
- CATALOG 605-2

AGET-DETROIT CO.

202 S. Main St. Ann Arbor, Mich.

▲ For more details circle NED-150 E4 on enclosed inquiry slip ▲

ACCO Quality

ACCO Registered* Wire Rope Slings

Cable-laid DUALOC Slings Lift 4000-lb Valve Safely

• Two 9/32" SW-6 ACCO *Registered* Cable-Laid Slings and one safety shackle in 30° double basket hitch with a 5-to-1 safety factor lift this 4000-lb valve safely. *Compare with what you use.*

Now you can choose from hundreds of types and sizes and lengths of standard slings. All have patented DUALOC endings . . . and ACCO *Registered* links, safety shackles, and hooks. Your ACCO *Registered* distributor stocks many popular sizes. See him today or write our Wilkes-Barre, Pa., office.

*Trade Mark Registered

ACCO Wire Rope Sling Department
AMERICAN CHAIN & CABLE

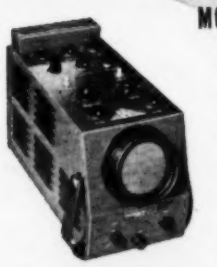
Wilkes-Barre, Pa., Atlanta, Chicago, Denver, Houston, Los Angeles, New York, Odessa, Tex., Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn. • In Canada: Dominion Chain Co., Ltd., Niagara Falls, Ont.

for Better Values

▲ For more details circle NED-151 E4 on enclosed inquiry slip ▲

THE HI-GAIN Industrial **POCKETSCOPE** ® BY WATERMAN

MODEL S-14-A



Identified by its hi-sensitivity and incredible portability, S-14-A POCKETSCOPE now permits "on-the-spot" control, calibration and investigation of industrial electronic, medical and communications equipment. Direct coupling without peaking, used in the identical vertical and horizontal amplifiers, eliminates undesirable phase shifting. Designed for the engineer and constructed for rough handling.

Wt. 12¾ lbs. 12" x 5¾" x 7"

Vertical and horizontal channels: 10mv rms/inch, with response within—2DB from DC to 200KC and pulse rise of 1.8 μs. Non-frequency discriminating attenuators and gain controls with internal calibration of trace amplitude. Repetitive or trigger time base, with linearization from ½cps to 50KC with ± sync. or trigger. Trace expansion. Filter graph screen. Mu metal shield. And a host of other features.

WATERMAN PRODUCTS CO., INC. PHILADELPHIA 25, PA.
CABLE ADDRESS: POKETSCOPE

WATERMAN PRODUCTS INCLUDE:

S-4-A	SAR	PULSESCOPE
S-5-A	LAB	PULSESCOPE
S-10-B	GENERAL	POCKETSCOPE
S-11-A	INDUSTRIAL	POCKETSCOPE
S-14-B	WIDE BAND	POCKETSCOPE
S-15-A	TWIN TUBE	POCKETSCOPE

Also RAKSCOPES, LINEAR AMPLIFIERS, RAYONIC TUBES and other equipment

WATERMAN PRODUCTS

▲ For more details circle NED-152 E4 on enclosed inquiry slip ▲

VACUUM CLEANER
gasoline engine driven unit

All of the characteristics of the 1½-hp industrial motor-operated vacuum cleaner are found in this gasoline engine driven unit for use beyond power lines or where electric cable would be inconvenient. Machine uses the same hose and tools as standard models and its 4.7-hp engine will operate for 3½ hours on one tank filling. Weight is 350 lb. Made by **Spencer Turbine Co.,** 487 New Park Ave., Hartford, Conn.

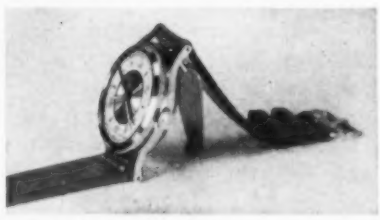
▲ For more details circle NED-153 E4 on enclosed inquiry slip ▲

FASTENER INSERTING TOOL
used with pneumatic riveting hammer

Fast insertion of Rollpin split pin fasteners is afforded by Rollpin driving set for use with Ingersoll-Rand pneumatic aircraft riveting hammers AVC-10, AVC-11, AVC-12 and AVC-13. If pin is to be driven flush, flat face of set is used, while raised stud on face is used for countersinking. Throttle control allows starting pin with slow speed and light blows, and a regulator permits adjustment of maximum power. Driving set made by **Elastic Stop Nut Corp. of America,** 2331 Vauxhall Rd., Union, N. J.

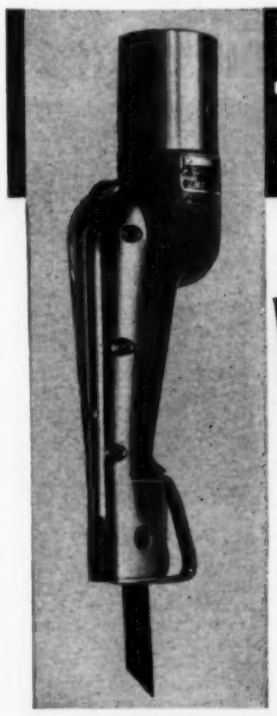
▲ For more details circle NED-154 E4 on enclosed inquiry slip ▲

ALARM WRIST WATCH
runs 42 hours on one winding



Industrial personnel can use the TonArist alarm wrist watch as a memory "jogger" and timepiece. It is a 17-jewel shock-proof watch equipped with an unbreakable mainspring which powers both the alarm system and time system with one winding. Running time is 42 hours. Turning of the bezel gives the desired alarm setting. Alarm can be set for loud or soft tone. Chrome and gold plated top models with stainless steel backs are available from **Merit Watch Co.,** 630 Fifth Ave., New York 20, N. Y.

▲ For more details circle NED-155 E4 on enclosed inquiry slip ▲



TOOL of a THOUSAND USES

TRI-SAW, All-Purpose, Portable Power Hacksaw

Still the same low price. ONLY $37.50

Makes Any Cutting Job Quick . . . Easy . . . Economical

Simply attach Tri-Saw to any 1/4" or 5/16" heavy duty drill—then zip through wood, sheet metal, heavy metal, nails, pipe and what have you, in seconds! Use this sensational time and work saving tool and you'll say it's the best all-purpose saw on the market. Only Tri-Saw gives you these exceptional features:

- No side torque or spin
- One shot lubrication
- Completely replaceable high speed bearings
- Improved dirt seal
- Needs no starting hole

See Tri-Saw at your jobber or write us for descriptive literature

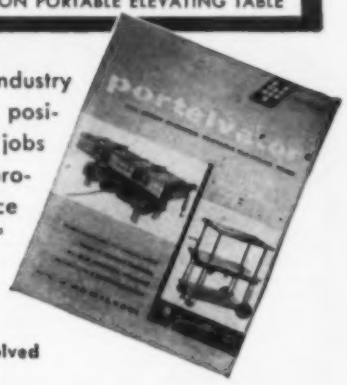
MANUFACTURED BY
TRI-SAW CORPORATION
2207 HANLEY INDUSTRIAL COURT • ST. LOUIS 17, MISSOURI

▲ For more details circle NED-156 E4 on enclosed inquiry slip ▲

NOW—A FREE BULLETIN 5423

Tells HOW SPECIAL PORTELVATOR®

THE HANDY HAMILTON PORTABLE ELEVATING TABLE



● is used throughout industry to do the heavy lifting, positioning, and transporting jobs which have harassed production executives since the word "production" assumed its present meaning.

Find out how others have solved problems parallel to yours.

WRITE FOR FREE BULLETIN 5423

ADDRESS THE HAMILTON TOOL COMPANY
901 HANOVER STREET, HAMILTON, OHIO

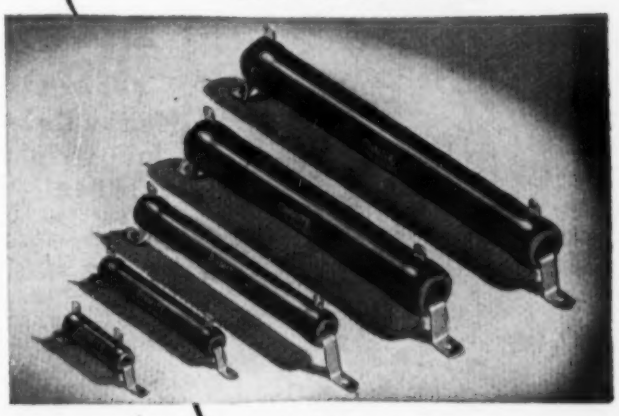
IT'S A **Hamilton Tool**
USE IT WITH CONFIDENCE

▲ For more details circle NED-157 E4 on enclosed inquiry slip ▲

NOW...ALL

OHMITE®

WIRE-WOUND RESISTORS



HAVE

WELDED TERMINALS

Here is the ultimate in resistor *stability.* These Ohmite resistors have patented welded terminals—providing perfect (and permanent) electrical connections between wire and lug ...an extremely important feature in eliminating noise and instability in sensitive circuits. Furthermore, these connections are not affected by vibration and high temperature.

The terminals are made of a special high-strength alloy whose coefficient of expansion is properly related to that of the other resistor materials. This keeps terminals anchored and prevents cracking.

Millions of these resistors have proved their reliability in the toughest kind of service.

WRITE on Company Letterhead for Catalog No. 40

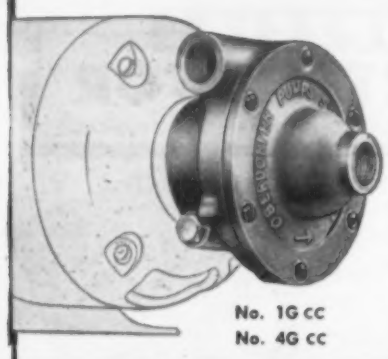
OHMITE MANUFACTURING CO.
3620 Howard St., Skokie, Ill.
(Suburb of Chicago)

Be Right with **OHMITE®**

RHEOSTATS • RESISTORS • TAP SWITCHES

▲ For more details circle NED-158 E4 on enclosed inquiry slip ▲

Close coupled, centrifugal, motor driven
OBERDORFER BRONZE PUMPS



No. 1G CC
No. 4G CC

1G cc is complete motor-pump unit with 1/12 H.P., 3450 RPM, 110 volt, A.C. ball bearing thermal overload motor. Motor frame Nema 42 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

4G cc is complete motor-pump unit with ⅓ H.P., 3450 RPM, 110 volt, A.C. thermal overload motor. Motor frame Nema 56 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

OVERALL DIMENSIONS—Motor and Pump Unit

Pump No.	Height	Width	Length	Suction	Discharge
1G cc	5"	4¾"	9"	⅜ N.P.T.	⅜ N.P.T.
4G cc	6⅝"	6 5/16"	11¼"	¾ N.P.T.	½ N.P.T.

CAPACITIES—Gal. per min. —3450 RPM - Foot Water Head

Ft. Water	0	5	10	15	20	25	30	35
1G cc	7	6½	5	4	1½	—	—	—
4G cc	23	22	20	18	15	12	8	2

Oberdorfer Foundries, Inc., Ind. Pump Div.
245 Thompson Rd. Syracuse, N. Y.

For more details circle NED-159 E4 on enclosed inquiry slip

...here's the WHEEL they're ALL talking about ...and BUYING!

DICO -HD- Heavy Duty Industrial Wheel

- PRESSED STEEL INDESTRUCTIBLE
- "WELDED-IN" STEEL HUB
- ROLLER BEARING IN PLANISH SLEEVE
- EASY-ROLLING "MOLDED-ON" TIRES
- LIGHT AND STRONG

PUT ALL YOUR WHEEL PROBLEMS UP TO DICO!

Write for complete Wheel Catalog

DICO DES MOINES 5, IOWA

For more details circle NED-160 E4 on enclosed inquiry slip

PRECISION MOLDED RUBBER PARTS

Don't let the performance of your products suffer from inferior molded rubber parts . . . parts that are not true to dimension or that do not stand up because of poor quality or wrong compound. Houghton's years of service to equipment manufacturers in supplying synthetic rubber packings are at your service for precision molded rubber parts. Mail the coupon below, or write for information. E. F. Houghton & Co., 303 W. Lehigh Ave., Phila. 33, Pa.

E. F. HOUGHTON & CO. PHILADELPHIA • CHICAGO • DETROIT • SAN FRANCISCO

Ready to give you on-the-job service . . .

E. F. HOUGHTON & CO., 303 W. Lehigh Ave., Phila. 33, Pa.

Name _____

Company _____

Address _____

City _____ Zone _____ State _____

For more details circle NED-161 E4 on enclosed inquiry slip

INFRARED LAMP

fused quartz tube contains element, withstands severe temperature shock

A fused translucent quartz tube houses coiled tungsten element of these infrared lamps which have many applications in heating, drying, baking, cooking and similar uses. Tube diameter is slightly larger than that of a cigaret, yet it produces over four times energy concentration delivered by conventional 250-w infrared bulb. Lamp will withstand high temperatures, as well as shock of being doused with cold water after being heated to cherry red. Filament operates at 4000° F.

Being introduced are 500 and 1000-w units for use on circuit voltages of 115-125 and 230-250, respectively. They have lighted lengths of 5 and 10 in. From each end extends flexible 6-in. lead wire. Lamps produce energy of about 100 w per lighted inch of tube length, plus instant full radiation. Visible light as well as infrared radiation is produced. Rated trouble-free burning life is more than 5000 hours. Made by **General Electric Co.**, Lamp Div., Dept. 166-NED, Nela Park, Cleveland 12, O.

For more details circle NED-162 E4 on enclosed inquiry slip

HYDRAULIC ACCUMULATORS

operating rating is 3000 psi

Designed to furnish intermittent hydraulic power at extremely high oil flow for relatively short operation cycles, hydraulic accumulators have operating ratings of 3000 psi. They can function as auxiliary energy sources in intermittent-duty systems, emergency power sources for secondary systems, as surge chambers or shock absorbers, leakage and thermal expansion compensators and dispensers of fluids under pressure. Piston type units are easy to install and are offered in 11 sizes. Bores range from 1½ to 7 and lengths from 9⅜ to 40 in. Volume capacities range from 10 to 1155 cu in. Seamless tube shells have forged threaded end caps, and aluminum piston is aligned in the cylinder by special rings. O-ring seals are used. Made by **Parker Appliance Co.**, Industrial Hydraulics Div., Dept. NE, 17325 Euclid Ave., Cleveland 12, O.

For more details circle NED-163 E4 on enclosed inquiry slip

an ACCO product

Helicoid Gages

Why HELICOID Costs Less Per Gage, Per Year

HELICOID Gages have the Helicoid Movement . . . a simple cam and roller design which has no gear teeth to wear out. Bourdon tubes used in HELICOID Gages are carefully designed to give maximum torque and minimum stress . . . promoting the greatest possible endurance life. They withstand many millions of pressure pulsations without stretching, leaking or cracking. HELICOID Gages assure the highest degree of gage accuracy and long-life service. *Write today for the G-2 HELICOID Gage Catalog.*

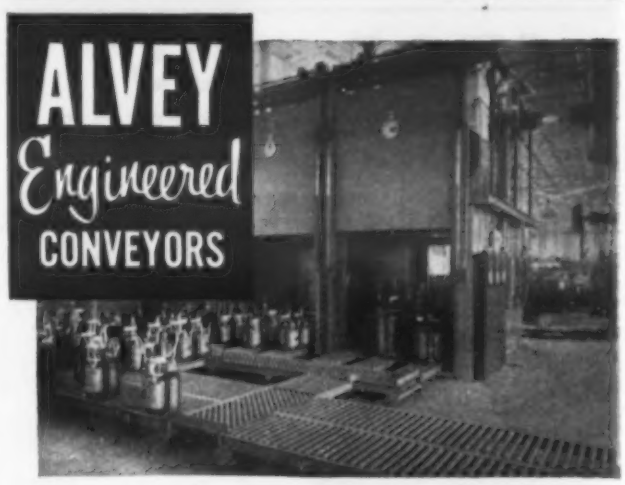
ACCO

Helicoid Gage Division
AMERICAN CHAIN & CABLE
927 Connecticut Ave. • Bridgeport 2, Connecticut

Pressure • Vacuum • Compound

For more details circle NED-164 E4 on enclosed inquiry slip

ALVEY Engineered CONVEYORS



Ease the Handling of Materials in Process

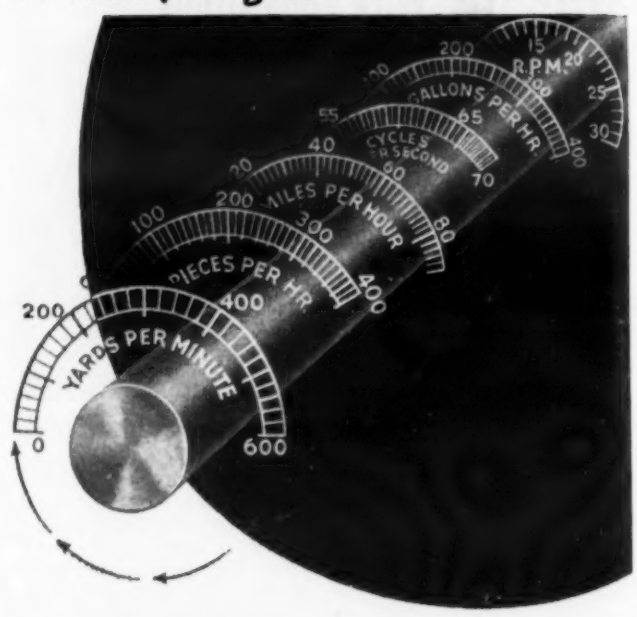
Alvey Conveyors can smooth out and synchronize the flow of materials and parts in manufacturing operations. An Alvey Engineer will be glad to visit your plant to help you determine how you can save time and money and improve production in your plant. Write for additional information.

ALVEY CONVEYOR MFG. CO.
9259 Olive Street Road • St. Louis 24, Missouri
Branch Offices in Principal Cities

ALVEY 125

For more details circle NED-165 E4 on enclosed inquiry slip

If some part goes 'round and 'round



...WESTON Electrical Tachometers

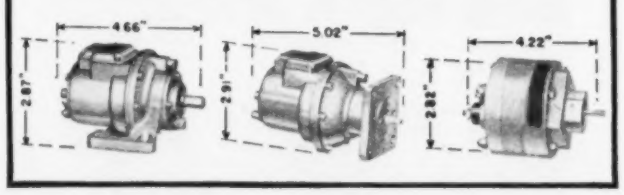
can provide a simple, accurate key to control!

Wherever instant, accurate measurement furnishes the key to precise control, equipment manufacturers now build-in WESTON Electrical Tachometers. For no other method approaches the electrical tachometer for simplicity, ease of installation, overall dependability and ready adaptability to problems of design.

The specially designed WESTON A-C and D-C Tachometer Generators, for example, save up to 50% in size and weight, and are available in forms to permit wide flexibility in mounting, and in connection arrangements. The WESTON Indicators, too, are available in required sizes and shapes, calibrated in any function of the RPM. Available to directly indicate speeds as low as 1/10 RPM up to 80,000 RPM.

Other advantages of electrical tachometers such as . . . multiple indications from one generator . . . remote indications . . . dependable, long-term accuracy . . . and low mantenance, warrant full investigation. Complete details gladly sent on request. WESTON Electrical Instrument Corporation, 614 Frelinghuysen Ave., Newark 5, N. J.

Space-saving • Weight-saving WESTON Generators



WESTON Instruments

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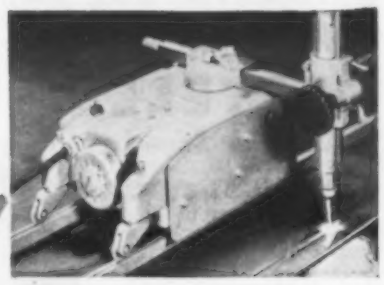
SAVE TIME AND MONEY with this

OXWELD Trade-Mark **MACHINE CARRIAGE**



Here is a new lightweight machine carriage—the OXWELD CM-45—that will mechanize literally dozens of oxy-acetylene jobs in large or small metalworking shops, and do them better than the most skilled hands.

You save money when you let the CM-45 do your cutting, beveling, flame-treating, or special welding jobs. Its efficient operation saves oxygen and acetylene as well as time, and rejects are reduced to a minimum.

For further information, call your nearest LINDE representative today. Ask for a free copy of Form 7839. No obligation.

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A Division of Union Carbide and Carbon Corporation
30 E. 42nd St., New York 17, N. Y. UCC Offices in Other Principal Cities
In Canada: Dominion Oxygen Company, Limited, Toronto

"Oxweld" is a trade-mark of Union Carbide and Carbon Corporation

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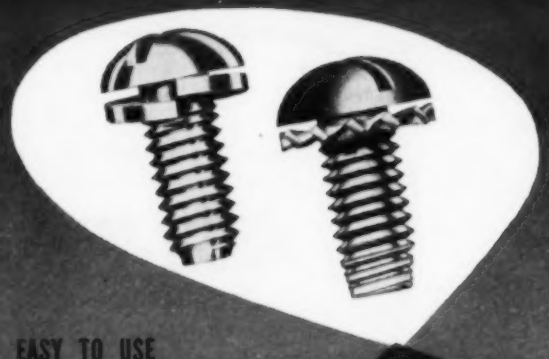
ASSEMBLY TIME REDUCED with EATON SPRINGTITES AND SEMS



EASY TO USE
SPEED ASSEMBLY
ELIMINATE WASHER LOSS

SEND TODAY FOR FREE ENGINEERING BULLETIN S-49

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Commander TAPPER

★ Wider Range...1 Tapper Handles #0 to 3/4" Taps

★ Automatic Tap Protection

★ Furnished to fit any Drill Press

Commander—"The Tapper That Thinks For Its Operator," has the adjustable full range torque control that instantly stops any tap when it becomes dull, loaded, strikes a hard spot or bottoms in blind hole tapping. Assures maximum tap protection, higher production, even with inexperienced operators.

Your nearby Commander Distributor can give you a demonstration in your own plant. Write for his name and a copy of the NEW Commander Full Line Catalog #851

COMMANDER MFG. CO.
4220 W. Kinzie St. Chicago 24, Ill.

Product of Commander... Builder of Production Tools

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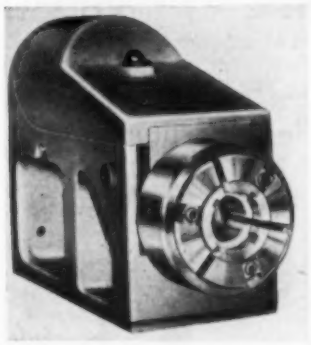
ASPHALT PLANT
welded design cuts maintenance

Basic improvement made in type T asphalt plant mixing tower is a change to all welded construction to effect a reduction in maintenance costs. All over-

flows are self-contained and inside the bin. Dust bin is also self-contained as an integral part of the bin structure. Design provides for adequate working space and platforms. Plant is available with all units driven by individual electric motors, with gasoline or diesel engines on the main units and electric drive on small units, or with gasoline or diesel drive throughout. Deister screen gives excess screening capacity where required. Made by **Hetherington & Berner Inc.**, 751 Kentucky Ave., Indianapolis 7, Ind.

▲ For more details circle **NED-170 E4** on enclosed inquiry slip ▲

AIR COLLET-CHUCK
holds various sized rough castings



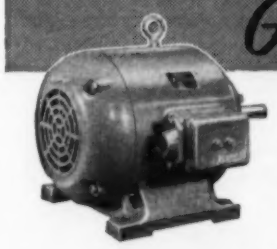
Compact design of this air collet-chuck allows it to be mounted in vertical or horizontal positions on drill presses, milling machines and indexing tables where high speed turning, drilling, reaming, chamfering and threading is desired. It has tremendous gripping power and registers casting in exact position each time. Chuck is supplied with one master collet and one set of soft pads or one solid collet for round or hexagon parts. Capacity is 3/8 to 1 7/8 in. Hand air valve or foot valve controls are available accessories. Made by **Pitt Industries**, Dept. T101, Gregg St., Carnegie, Pa.

▲ For more details circle **NED-171 E4** on enclosed inquiry slip ▲

DO YOU KNOW? Full information on how to obtain and use industrial motion pictures offered by U. S. Steel is given in 16-page illustrated 1954 catalog. Top flight casts, Technicolor and black and white prints, and informative presentations characterize the eleven motion pictures which are available from several distribution centers for showings to technical and business groups. Available from United States Steel Corp., Motion Picture & Visual Aids Section, 525 William Penn Pl., Pittsburgh 30, Pa.

▲ For more details circle **NED-172 E4** on enclosed inquiry slip ▲

Great Motors from Great Britain!



- world-famous NEWMAN MOTORS
- net savings up to 40%
- immediate delivery
- unconditionally guaranteed
- superior design— to N.E.M.A. standards

For the first time, the complete world-famous line (2 million installed in 62 countries since 1935) of NEWMAN MOTORS, built to N.E.M.A. standards, is offered to the American Market in sizes up to 230 H.P.

These are new, high-quality motors stamped with the prestige of a great motor-making company. Vast savings, dependability, unconditional guarantee are offered to American buyers.

Any motor sent free and without obligation for examination and testing. Factory stocks at New York, Chicago, Savannah, Houston, Portland, San Francisco and Los Angeles.

Write for a catalog and price list to-day

Newman INDUSTRIES (AMERICA) INC.
41 BROAD STREET, NEW YORK 4, N.Y.

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NEW! Volatile Solvent CARBON MET

A HALOGENATED AROMATIC HYDROCARBON

A specific replacement for toxic Carbon Tetrachloride

Out and out metal dry cleaning solvent and degreaser in ready-to-use "Handy Kit" containing Patented dip and drier basket.

U. S. Pat. 2318842

- Quick Cutting solvent against stubborn dirt and grease.
- Non-Explosive and relatively non-toxic.
- Non-Corrosive to metals.
- Fast, clean evaporation.
- Non-Ionic . . Ideal for degreasing and cleaning electrical parts.

MUCH FASTER CUTTING THAN "CARBON TET"
CAUSES NO RUSTING . . . LEAVES NO FILM
also economical 55 gal. size drum

IMMEDIATE DELIVERY 1 PINT OR A TANK CAR

CURRAN CORP. Mfg. Chemists LAWRENCE, MASS.
120 South Canal St.

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Only one Yale Gas Truck . . .

but as many handling jobs as your operation requires

Versatile is the word for time-and-money-saving YALE Gas Trucks. Yes, one YALE gas truck . . . with interchangeable attachments . . . can perform a variety of handling jobs daily . . . do it faster—safer—at less cost.

Yale Electric Trucks do everything the Gas Trucks do . . . can be fitted with all YALE attachments . . . are efficient, economical and trouble-free. Capacities to 100,000 lbs. And before you buy *any* electric truck, look into the big news about YALE's new Safety Silhouette Electric Truck—with exclusive safety features you've never seen before!

*Reg. U. S. Pat. Off.

YALE* INDUSTRIAL TRUCKS AND HOISTS

Write for further information to The Yale & Towne Manufacturing Company, Philadelphia 15, Penna., Dept. 375

Gas, Electric, Diesel & LP-Gas Industrial Trucks
Worksavers • Hand Trucks • Hand & Electric Hoists • Pul-Lifts

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PRECISION-FINISH YOUR OUTSIDE DIAMETERS

The Odee-HONE

★ ACCURATE
★ INEXPENSIVE
★ VERSATILE
★ LIGHTWEIGHT

Corrects out-of-roundness, waviness, chatter . . . Generates diametric size within .0001" tolerance . . . Hones all parts from ½" to 2½" in diameter—regardless of length or material . . .

Can be used on any lathe, drill press, electric drill . . .

Simple to set up and operate—no aligning, fixturing or wheel dressing is necessary . . .

Removes a few "tenths" or a few "thousandths" stock in less time than it takes to re-center, indicate a part, and dress an abrasive wheel.

Write to:

MICROMATIC HONE CORPORATION

8100 SCHOOLCRAFT • DETROIT 38, MICHIGAN

Guilford, Conn. • Rockford, Ill. • Los Angeles 23, Cal. • Brantford, Ont., Canada

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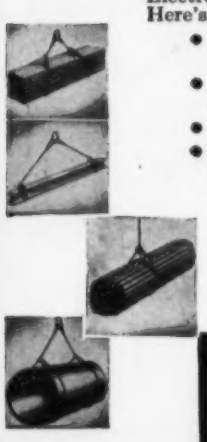
ELECTROLINE CHOKER SLING FITTING ADJUSTS AUTOMATICALLY TO ANY ANGLE OF PULL

For prolonging wire rope life, ease of attachment and complete safety, this revolutionary Electroline Choker Sling Fitting tops them all. Here's why:

- pivoted members adjust automatically *to any load* —they take the bend, instead of the rope.
- can't disengage under tension, or shock, the fitting always engages the rope.
- easy to apply—goes on in seconds, saves time.
- the Electroline Choker Sling Fitting outlives the rope it protects, reuse it over and over again.



A time and labor saver—in mills, factories, docks, material yards, warehouses: Wherever wire rope choker slings are used.

Send for bulletin "King of Sling Fittings"—which tells all.

Electroline Company

4121 South La Salle Street

CHICAGO 9, ILLINOIS

In Canada: Powerlite Devices, Ltd., Toronto

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SAVE 50% and more in Labor-Material with FencPainteR

For WOOD - METAL BRICK - STONE CONCRETE

Hundreds of industries and institutions all over America are using the FencPainteR applicator system of painting at immense savings. It's five times faster than brushing methods. Irregular and corrugated surfaces painted with the same facility and covering power as smooth surfaces. One concern painted 6 ft. wire fence at a total cost of only 20c per lin. ft. FencPainteR enamels contain only top-notch ingredients — go much farther — are more economical in the long run.

SPECIAL TRIAL OFFER — Including industrial size FencPainteR and 5 gal. FencPainteR aluminum enamel, 1 gal. solvent. Complete, only $57.00. Enough to do 300 lin. ft. of 6 ft. chain link fence. (Add $5.00 for gray, white or black — $10.00 for red or green).

THE ONLY ROLLER MADE WITH CAPILLARY ATTRACTION (PAINT HOLDING POWER)

FencPainteR Corporation

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MAIL COUPON for new 32 page illustrated brochure with full details covering FencPainteR products and their use.

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☐ Please rush Free 32 page Brochure

☐ Send Special Trial Offer, complete (Color desired.....) $.....

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Address .....

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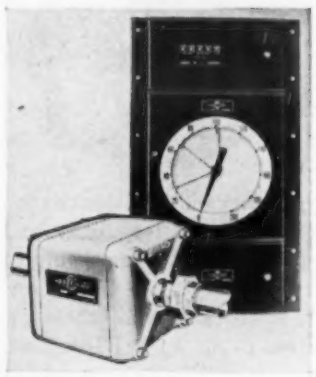
SLOTTED STEEL ANGLES make small buildings, benches, racks, catwalks and other items

Wrench and cutter are the only tools required for construction of small buildings, sheds, warehouses and other structures with the Flowstrut system of slotted steel angles. Sections of 14-gage steel angles can be bolted together to suit requirements. Angles are supplied in 12-ft lengths, predrilled with 40 bolt holes per foot, and are marked for cutting at ¾-in. intervals. A 2-ft unbraced horizontal span, with long leg down, can support 1630 lb.

For surface areas Flowstrut 20-gage steel panels, bolted directly to angles, are available in 9 and 12-in. depths and 36 and 48-in. lengths. All components are bonderized and have a weatherproof baked grey enamel finish. Use can be alone, or in conjunction with plywood, corrugated iron, asbestos or other materials. Benches, tables, racks, catwalks, trestles, etc., can also be built. Made by **Flowstrut Corp.**, Dept. NED, 23 Leonard St., New York 13, N. Y.

▲ For more details circle NED-179 E4 on enclosed inquiry slip ▲

FLOW METER meters wide variety of liquids

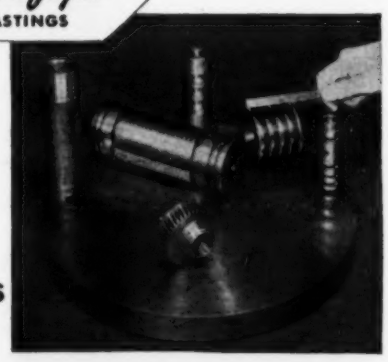


Water and aqueous solutions, acids and other corrosive liquids, slurries, emulsions, and liquids containing solids in suspension as well as molten salts and metals can be metered by Xactronic electro-magnetic flow meter. High pressures and temperatures or high concentration of suspended matter present no obstacle to operation. Metering element consists of an enclosed-magnet, stainless steel tube with Teflon liner and attached electrodes which are connected to the indicator or recorder which can be installed wherever desired. Pressure drop through the element is no more than that of an equivalent length of pipe. Accuracy is 1 per cent of full scale reading or better. Six sizes ranging from ½ to 2 in. are available. Meter can be used both to measure and record, or can be used to operate flow controlling mechanism. Made by **Bowser, Inc.**, 1381 Creighton Ave., Ft. Wayne 2, Ind.

▲ For more details circle NED-180 E4 on enclosed inquiry slip ▲

SHENANGO Centrifugal CASTINGS

Examples of finished tool parts machined from Shenango Meehanite Metal bar stock.



For superior quality parts specify

SHENANGO BAR STOCK!

THESE complex and varied machine tool parts were made from Shenango Meehanite Metal bar stock, recognized for close grain, pressure tightness, uniform hardness and exceptional wear resistance.

In addition, the uniformity of Meehanite Metal permits machining at increased speeds. It takes a fine, smooth finish in any cutting, honing, or grinding operation. Can be heat-treated too. When you specify Meehanite Metal bar stock you receive longer wear, minimum machining loss and freedom from defects.

These and other outstanding Shenango features add up to maximum versatility, minimum rejection, and the cost-cutting solution to many design and maintenance problems.

Write today for Bulletin 152. Address . . .

SHENANGO-PENN MOLD COMPANY
Centrifugal Castings Division
Dover, Ohio
Executive Offices: Pittsburgh, Pa.

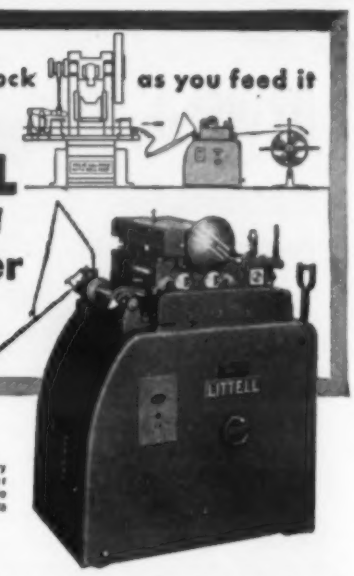
SHENANGO

COPPER, TIN, LEAD, ZINC BRONZES • MONEL METAL
ALUMINUM AND MANGANESE BRONZES • NI-RESIST • MEEHANITE METAL

▲ For more details circle NED-181 E4 on enclosed inquiry slip ▲

straighten coil stock as you feed it with a

LITTELL Variable Speed Straightener



Model 412-SPD Heavy Duty Straightener Straightens steel up to .125" thick and up to 12" wide.

A Littell straightener removes the curvature from coil stock. The press, slitter or shear receives a continuous strip of pre-straightened stock. Equipped with variable speed transmissions, Littell Straighteners are adjustable to meet a wide range of speed requirements in automatic feeding. They also simplify hand feeding. A variety of medium and heavy duty models straighten coil stock of all standard widths and thickness.

Write for the Littell Straightener Catalog

F. J. LITTELL MACHINE CO.

ROLL FEEDS • DIAL FEEDS • REELS
STRAIGHTENING MACHINES • AIR BLAST VALVES

Speed with Safety

District Offices: Detroit, Cleveland

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

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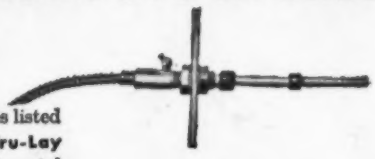
DO YOU USE OR MAKE ANY OF THE PRODUCTS IN THIS LISTING?



List of Users

The types of industries listed are all repeat users of **Tru-Lay Push-Pull Controls.** Experimental applications are not shown.

Agricultural Equipment
Air Conditioning Equipment
Aircraft & Parts
Automobiles
Bakery Equipment
Boats & Ships
Bottling Machinery
Brewing & Distilling Equipment
Business Machines
Buses & Motor Trucks
Candy Making Machinery
Canning Machinery
Ceramics Machinery
Chemical Processing Machinery
Coal Mining Machinery
Coin Operated Machines
Construction Machinery
Dairy Products Machinery
Dental & Surgical Equipment
Die Casting Machinery
Diesel Engines
Drinking Water Coolers
Electrical Appliances
Electrical Generating Equipment
Electrical Machinery
Electrical Transmitting Equipment
Electronic Equipment
Elevator Control Panels
Fire Protection Equipment
Food Processing Equipment
Forging Machinery
Foundry Equipment
Gas & Oil Production (Test Stands)
Glass Making Machinery
Grain Processing Equipment
Hat Machinery
Heating Equipment
Hydraulic & Pneumatic Equipment
Ice Cream Making Machinery
Laundry & Dry Cleaning Equipment
Leather Working Machinery
Lumber & Saw Mill Machinery
Marine Equipment
Materials Handling Equipment
Metal Mining Machinery
Metal Working Machinery—Machine Tool
Military & Naval Equipment
Motorcycles & Bicycles
Nuclear Science Equipment
Oil Refinery Equipment
Ordnance
Packaging Machinery
Paint Making Machinery
Paper Making Machinery
Photo Equipment (manufacture)
Plastics Fabricating Machinery
Plastics Producing Machinery
Power Plant Equipment
Printing & Binding Machinery
Quarrying Machinery
Radio & Television (manufacture)
Railroad Equipment
Road Building & Maintenance Equipment
Rubber Processing Equipment
Safety Locks on Fuse Panels
Sanitation Plumbing (Floor Valves)
Shoe Machinery
Steel Mill Machinery
Telephone & Telegraph Machinery
Textile Machinery
Waterworks Equipment
Welding Equipment
Wire Making Machinery
Woodworking Equipment
X-Ray Machines

Whether your interest is in a single application of this versatile

PUSH-PULL CONTROL

or in its inclusion as a component of the product you manufacture, we would welcome your request for our DATA FILE for your further study.

Because TRU-LAY PUSH-PULL CONTROLS are "SOLID as a rod but *FLEXIBLE* as a wire rope" their use has simplified the design and improved the operation of literally hundreds of products as indicated in the accompanying list of repeat users.

These fine controls are designed, and painstakingly built, to have the qualities of ACCURACY, HIGH LOAD CAPACITY, FREEDOM FROM TROUBLE, LONG LIFE, FLEXIBILITY . . . they are frequently and successfully used in conjunction with electrical, hydraulic and air controls . . . they are thoroughly effective under almost any operating condition.

Here are some of the jobs they handle well . . . HOT jobs on jets and industrial furnaces . . . COLD jobs down to −70°F. . . . WET jobs in food processing and marine applications . . . DIRTY jobs in cement mills and coal mines . . . CORROSIVE jobs in chemical processing . . . HEAVY, TOUGH jobs on construction machinery . . . LIGHT DUTY jobs on business machines, drinking water coolers . . . REMOTE jobs 150 feet or more from control point . . . they DAMPEN VIBRATION to protect delicate instruments . . . and LUBRICATION of the inner, working member is taken care of *for life* during assembly.

• The six booklets and bulletins in this DATA FILE will answer further questions you may have about this versatile and dependable tool, and will also provide you with the means of defining to us the application you may be interested in.

Write for a copy without obligation

DATA FILE

PUSH PULL

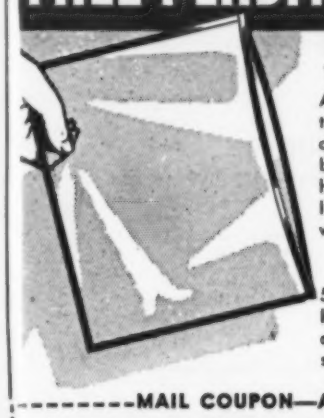
ACCO

AUTOMOTIVE and AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE

601 Stephenson Bldg., Detroit 2
2216 South Garfield Ave., Los Angeles 22 • Bridgeport 2, Conn.

▲ For more details circle NED-183 E4 on enclosed inquiry slip ▲

WANTED
5,000 MORE PLANT MANAGERS TO ASK FOR
FREE PLASTIC ENVELOPE



TO PROTECT JOB-TICKETS

Ask for *FREE* transparent envelope that keeps your work records safe, clean, and readable. Don't gamble with dirty fingerprints that hold up production. And don't let a grease spot raise havoc with your instructions.

SEND NO MONEY

50 sample work-sheet envelopes handed to your operators will convince you better than one sample.

MAIL COUPON—AND SAVE 30%

American Kleer-Vu Plastics, Inc.
53-06 Grand Avenue, Maspeth 78, N. Y.

Please send us 50 Kleer-Vu acetate envelopes, 10" x 12½", .005 gauge, with sewn edges, to protect factory tickets from smudging and tearing . . . If 100% satisfied, we will honor your invoice for only $9 (regular price $13). If not, we will return envelopes at your expense.

NAME .....
COMPANY .....
ADDRESS .....

For more details circle NED-184 E4 on enclosed inquiry slip

"Hamilton Watch Co. counts on AMF DeWalt for all maintenance!"

says Mr. Moses Good, Asst. Maintenance Engineer, Hamilton Watch Company, Lancaster, Pa.

"Our 2 De Walts do all our boxing and crating, and make all the work benches, cabinets and other furniture for our many departments. De Walt® is really versatile, we cross-cut, miter, bevel, compound miter and even do routing jobs sometimes. It's tops for all-around, all-purpose maintenance."

With one low-cost De Walt you'll be able to do just about any maintenance job—quickly ...safely...accurately. Takes up little space—takes the place of many machines.

Send for catalog to AMF De Walt Inc., Dept. NED-54-5, Lancaster, Pa.

De Walt Inc. Lancaster, Pa.

DE WALT POWER SAWS

In Canada: De Walt Canada Ltd., Guelph, Ontario

Subsidiary of AMERICAN MACHINE & FOUNDRY COMPANY, New York

For more details circle NED-185 E4 on enclosed inquiry slip

POWER PACKAGES

Low Cost Portable Hydraulic

Model S-440 (illustrated) measures 12"x12"x24"; weighs 45 lbs. Contains air-operated pump, air muffler, air filter, air lubricator, air regulator, valves and gages and all necessary equipment for immediate operation.

Make just three connections and you are ready to boost 100 psi. plant supplied air pressure to 10,000 psi. fluid pressure for $278.25 (FOB Gardena, Calif.). Eight standard models for output fluid pressures of 1,000 to 30,000 psi. Special models for lower or higher pressures.

Applicable wherever low volume output at high pressures is the requirement. For oil or water service. Thousands in use. Send for bulletin No. 500.

SPRAGUE
Engineering and Sales Corp.
1144 WEST 135TH ST., GARDENA, CALIF.

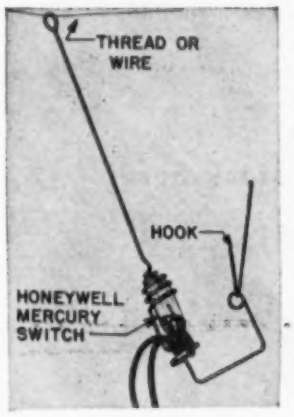
For more details circle NED-186 E4 on enclosed inquiry slip

TAP CONNECTOR
set screw provides grip

Tap connector for service drops, dead-end loops, T-bars, transformer, machine tool and ground connections grips wires with a wrench-tightened set screw. Large pad and stirrup distribute pressure to provide a low - resistance connection. Corrosion-resistant connector is made of hot-dipped cold-worked steel. Three models handle size combinations of from two No. 1 wires to one No. 8 and one No. 14 wire. Spacer bars are available for connecting copper to aluminum or steel or aluminum to steel cables. Made by **Ideal Industries, Inc.**, 1032 Park Ave., Sycamore, Ill.

For more details circle NED-187 E4 on enclosed inquiry slip

THREAD BREAK DETECTOR
for thread and wire machinery



Break detector for thread handling and wire cabler machinery consists of mercury switch assembled in simple wire form actuator. "Eyes" are provided on each end of actuator for attaching wire or thread and for supporting the unit on any simple pivot. In the event of strand breakage, unit tilts, opening or closing a circuit which shuts off machine or sounds an alarm. Open pivot mounting keeps device from binding due to lint, and sealed mercury switch prevents interference with electrical contacts and eliminates fire hazard. Made by **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

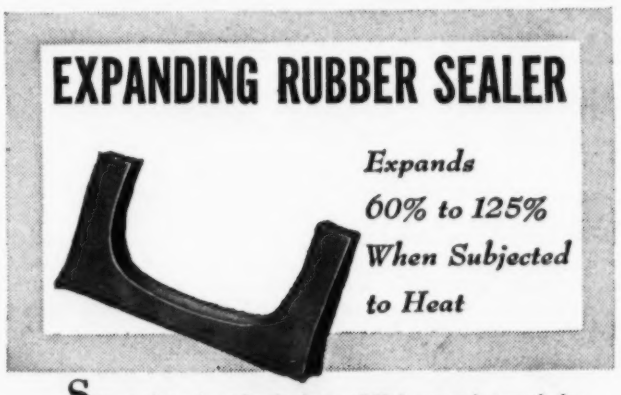
For more details circle NED-188 E4 on enclosed inquiry slip

POLARIZED MOTOR
has synchronous feature

Model RBCP polarized synchronous motor always pulls into synchronous speed with the rotor in the same position with respect to polarity of the motor field. Motor is rated at 0.3-oz-in. torque, 3600 rpm, continuous 40° C rise for use with 115-v, 60-cycle ac. Input is 12 w. Typical application is in driving an instrument type DA-AC synchronous chopper. Made by **National Pneumatic Co.**, Holtzer-Cabot Motor Div., Dept. N, 125 Amory St., Boston 19, Mass.

For more details circle NED-189 E4 on enclosed inquiry slip

EXPANDING RUBBER SEALER



Expands 60% to 125% When Subjected to Heat

Shown above is sealer in form of U-shape gasket used, for example, to seal around windshield wiper pivot post hole of automobiles.

To effectively seal uneven or irregular gaps and hard-to-reach places, Presstite's expanding rubber compounds are ideal. When subjected to heat, they are designed to expand and *remain* expanded, developing excellent adhesion. Furnished in extruded beads, ribbons and special shapes or cutouts as required, they form an impenetrable barrier against water, air, dust and rust.

Write for samples of Presstite expanding rubber sealers today . . . or tell us your sealing needs. Over 400 Presstite sealing compounds are used in thousands of sealing applications, and we'll gladly recommend the very best sealant for your job.

SEALANTS • COATINGS • ADHESIVES

for Automotive, Appliance, Refrigeration, Construction and many other industries.

PRESSTITE SEALING COMPOUNDS

In Canada: Railway & Power Engineering Corp., Ltd.

PRESSTITE ENGINEERING COMPANY
3742 Chouteau Ave. St. Louis 10, Mo.

For more details circle NED-190 E4 on enclosed inquiry slip

FREE

HOW MOTOCYLINDERS SPEED AND SIMPLIFY MATERIAL HANDLING

Turn to this book for a better way to push, flip, raise, lower and release material. Fully explained are the revolutionary thrust techniques of Westinghouse Motocylinders. See how these compact drive units give you greater precision and economy together with far less maintenance than your present material-handling method. The simplicity of Motocylinder installation and operation is clearly shown . . . no steam or hydraulic systems involved.

Included are thrust diagrams, torque curves, control arrangements, rating charts and important construction features of the Westinghouse Motocylinder.

Write today for your copy of B-6090 and learn how motions can be put to more practical use with Motocylinders. Address your request to: Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-07339

YOU CAN BE SURE...IF IT'S Westinghouse

For more details circle NED-191 E4 on enclosed inquiry slip

When do you specify

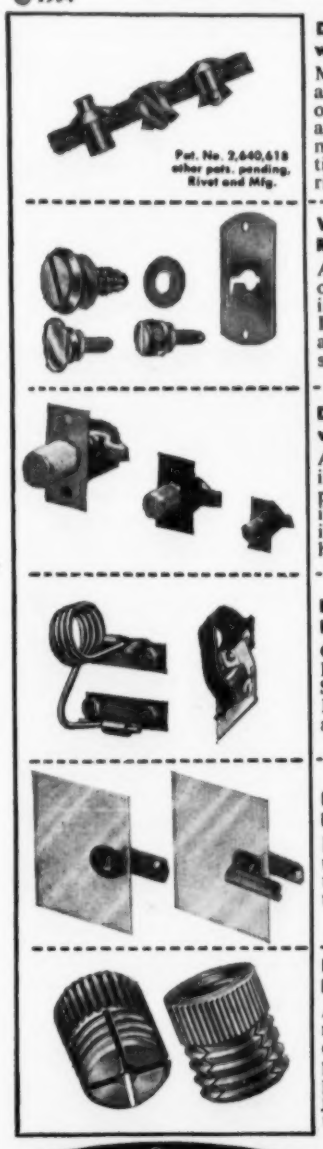
design fasteners?

When they lower production costs. Southco Fasteners are designed for specific, requirements to reduce installation time, to do a better job.

Southco engineers are available to help you select the right fastener for your particular needs. Write for the Southco Fastener Handbook.

Southco Division, South Chester Corporation, 243 Industrial Highway, Lester, Pa.

© 1954



DRIVE RIVETS . . . installed with only a hammer
Make riveting as easy as nailing; a one man job out of a two man operation. For blind or access applications. Fasten metal-to-metal or metal-to-wood. Installation is quick, easy. Just hit the rivet pin with a hammer.

Pat. No. 2,640,618 other pats. pending. Rivet and Mfg.

Wide-tolerance Quick-Release Fasteners
Ample length tolerance permits one size to cover wide variations in metal thickness and spacing. Floating screw assembly solves alignment problems. Easily installed.

DOOR FASTENERS . . . with adjustable grip
Accommodate variations up to 5/16 inch in engaging distance. Grip pressure adjusted by simply turning the knob. Pre-assembled unit is easily and quickly installed. Two head styles—flush or projecting.

DOOR SPRINGS . . . hold doors open and shut
Good for the life of the assembly. Holds doors both open and closed. Spring tension prevents rattle. Minimum space required. Available in coil or leaf springs.

DOOR LATCHES . . . installed in seconds
Low-cost, rugged, installed with unbelievable speed. Provide positive locking wherever used. Two types—handle or flush-head.

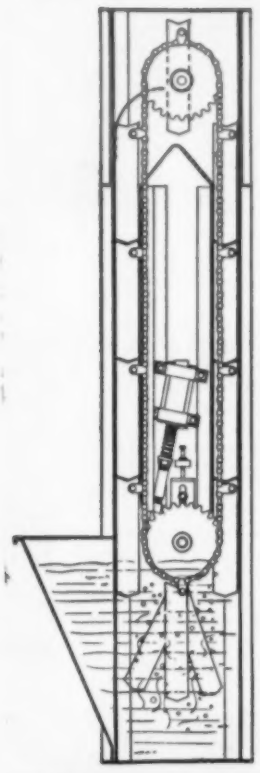
PERMANENT STEEL THREADS IN WOOD
Anchor nuts provide threads for metal screws, bolts, studs. Permit quick attachment or removal of parts. For wood laminates or composition materials; nothing projects to mar finished surfaces. Can't twist or pull out.

SOUTHCO FASTENERS

PAWL • SCREW AND SPRING • DRIVE RIVETS
ANCHOR NUTS • ENGINEERED SPECIALTIES
OFFICES IN PRINCIPAL CITIES
WHEREVER TWO OR MORE PARTS ARE FASTENED TOGETHER; STANDARD AND SPECIAL DESIGNS FOR IMPROVED PERFORMANCE AND LOWER PRODUCTION COSTS

For more details circle NED-192 E4 on enclosed inquiry slip

NEW AIR FILTER CLEANS ITSELF



"pulse-type" action keeps Automaze clean as new

Exclusive "pulse-type" action is the secret of the new Automaze air filter. While each panel in the revolving curtain is submerged in the cleaning tank at the bottom, it is agitated vigorously 6 or more times by a compressed air drive. This cleans each panel thoroughly as well as completely renewing the adhesive. Result: Automaze stays clean as new!

New Automaze goes 3 to 6 months without attention—a big improvement over stationary filters that may need cleaning once a month. Even after 6 months, all you need do is remove the sludge. A special reservoir cover makes this a quick, simple operation.

FREE BOOKLET: Send for free booklet for full details on the new Automaze. Write:

AIR-MAZE CORPORATION
25000 Miles Road
Cleveland 28, Ohio

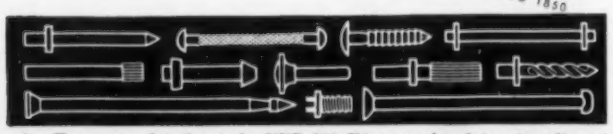
▲ For more details circle **NED-194 E4** on enclosed inquiry slip ▲

WRITE FOR FREE fastener catalog

A complete, comprehensive handbook on cold-headed nails, rivets, screws and other special fasteners. Check on ways to improve your assembly cost-wise, appearance-wise and from a standpoint of maximum effectiveness at minimum cost. One hundred years of experience are at your service. Write for price quotations or for suggestions on the redesigning of your present assembly.

JOHN HASSALL, INC.
P.O. Box 2178 Westbury, Long Island, N.Y.

Hassall ESTABLISHED 1850



▲ For more details circle **NED-195 E4** on enclosed inquiry slip ▲

How to check precision gears quickly, conclusively, to closest tolerances

With the Kodak Conju-Gage Gear Checker, you pass every right gear, reject every wrong gear—check tooth-to-tooth composite error of .0002".

The revolutionary Kodak Conju-Gage Worm Section, used with both spur and helical gears, provides a new standard of gage precision, combines accuracy with economy. Results are recorded automatically for permanent reference.

Write for a copy of the booklet, "Kodak Conju-Gage Gear Testing Principle," which shows how Conju-Gage Instrumentation can help solve your precision gear problems.

Special Products Sales Division
EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak

CONJU-GAGE INSTRUMENTATION

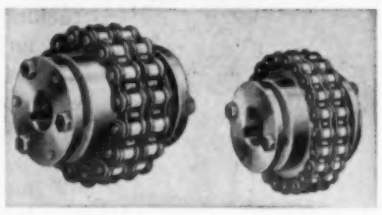
▲ For more details circle **NED-196 E4** on enclosed inquiry slip ▲

SANDING & FILING TOOLS equipped with easy-to-use handles

Flat, curved and contour surfaces, corners and angles can be sanded by the cushioned hand sander, one of three tools in the Li'l Sharpy hand tool line. Sander is made with 1 x 6, 3 x 7 and 1 x 12-in. platens, each covered with a sponge rubber cushion treated with an adhesive which holds abrasive paper or cloth. Cushion follows contours and minimizes clogging. Handle is adjustable for use in two positions. Second tool in line is a file with three-way adjustable handle and interchangeable 2-in. file segments are for filing, sanding, planing and stoning. Third tool is a cushioned hand file which prevents gouging, equipped with two handles for two-hand use. Six-inch file segments are replaceable and have teeth cut for use on all types of materials, including wood. Made by **Milwaukee File Co.,** Dept. N, 1567 W. Pierce St., Milwaukee 4, Wis.

▲ For more details circle **NED-197 E4** on enclosed inquiry slip ▲

FLEXIBLE COUPLINGS 9 stock sizes, 38 stock bores



Nine stock sizes of chain type flexible couplings are available in 38 stock bores ranging from 3/8 to 2 11/16 in. Couplings are composed of American Standard roller chain and Pearlitic malleable sprockets with hardened teeth which utilize the Split Taper compression bushing. Capacities range up to and in excess of 150 hp. In the two smallest bushing sizes designated G and H, bores from 9/16 to 1 in. and 9/16 to 1½ in., respectively, are available with standard keyseats. All bores are available without keyseats. Made by **Browning Mfg. Co.,** 1940 Browning Dr., Maysville, Ky.

▲ For more details circle **NED-198 E4** on enclosed inquiry slip ▲

DO YOU KNOW? Small, inexpensive and fully portable, a new X-ray unit has been developed for use in medicine and industry. A tiny particle of thulium, made radioactive in a heavy water reactor, is mounted in a source holder and shield equipped with a shutter mechanism. Latter is operated by a standard photographic cable release. Unit weighs less than 10 lb, delivers rays comparable to 100,000-v x-ray machine, is self-contained, uses no power supply and can be used to take x-ray photographs. Developed by the Argonne National Laboratory, Atomic Energy Commission, P. O. Box 299, Lemont, Ill.

▲ For more details circle **NED-199 E4** on enclosed inquiry slip ▲

Mathews Belt Conveyers Are Handling The Products of Many Industries

ELLWOOD CITY, PA.—Industries everywhere are finding a solution to their package handling problems in Mathews Belt Conveyers. Belt conveyers lend themselves readily to assembling, inspecting and packing. They can operate from floor to floor or between buildings. They can be set at floor level, immediately below the ceiling or at any level in between ceiling and floor. Call your Mathews representative or write for complete information to MATHEWS CONVEYER COMPANY, Ellwood City, Pa.

Whatever your product—it must be handled efficiently—you can depend on

MATHEWS CONVEYERS

▲ For more details circle **NED-200 E4** on enclosed inquiry slip ▲

NEW SIZE 2U IMPACTOOL

This MIGHTY MITE is a real Multi-purpose tool

The new 2U Impactool will do all these jobs—and do them fast—

- run and remove nuts
- drill
- ream
- tap
- drive and remove screws
- drive and remove studs
- saw holes
- drill masonry
- bore wood
- extract broken studs
- run wire brushes

This newest and lightest Impactool has the time-proven Ingersoll-Rand impact mechanism that has an unmatched reputation for power and dependability in both air and electric Impactools.

Ask for a demonstration of this new, powerful little Impactool. You'll find it featured by leading automotive jobbers and industrial distributors from coast to coast.

SPECIFICATIONS

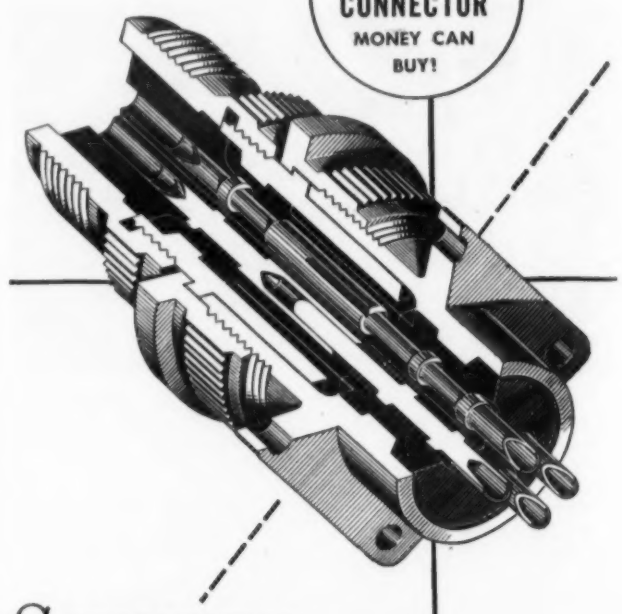
Capacity, bolt size	¼"	Impacts per minute	2100
Weight, less cable	5 lbs.	Square Socket Driver	⅜"
Free Speed	1750 rpm	Standard Voltage	110 volts AC-DC

Ingersoll-Rand
11 Broadway, New York 4, N.Y.
Originators of Impactools—Air and Electric

18-20

▲ For more details circle **NED-201 E4** on enclosed inquiry slip ▲

The Finest ELECTRICAL CONNECTOR MONEY CAN BUY!



SCINFLEX ASSURES LOW MAINTENANCE BECAUSE IT PERMITS SIMPLICITY

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX ELECTRICAL CONNECTORS

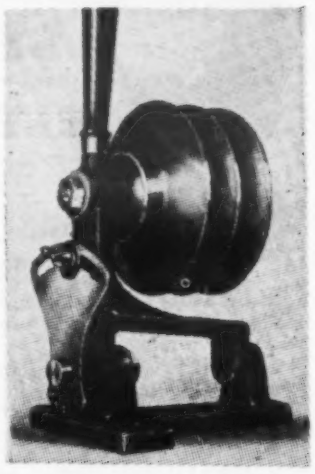
Bendix

SCINTILLA DIVISION of Bendix
SIDNEY, NEW YORK
AVIATION CORPORATION

Export Sales: Bendix International Division, 205 E. 42nd Street, New York 17, N. Y.
FACTORY BRANCH OFFICES: 117 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • 512 West Ave., Jenkintown, Pa. • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California

▲ For more details circle **NED-202 E4** on enclosed inquiry slip ▲

VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.,** 2224 Albion St., Toledo, O. **Adv.**

▲ For more details circle **NED-203 E4** on enclosed inquiry slip ▲

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

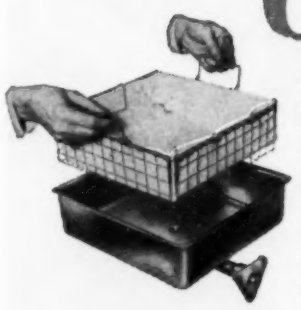
BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS *Write for information*

▲ For more details circle **NED-204 E4** on enclosed inquiry slip ▲

Now FOR SMALL FLOW FILTRATION

THE **Delpark Junior**



Designed for coolant filtration on grinders, hobbers, shavers, cutters, hones and lappers with small coolant flows. Filtration capacity on cutting oils ¼ to 1 g.p.m., soluble oils ½ to 1½ g.p.m.

Permits closer tolerance and finish requirements, greater machine efficiency and production, fewer rejects. Assures longer wheel and tool life, lowers coolant temperature. Requires no floor space. Disposable filter tray replaced in seconds. Allows cleaner working conditions.

Write for DELPARK JUNIOR BULLETIN

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVE. LEBANON, INDIANA

▲ For more details circle **NED-205 E4** on enclosed inquiry slip ▲

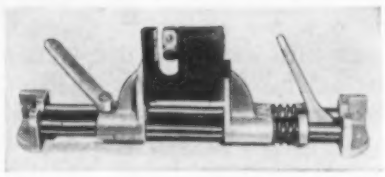
WELDMENT TURNING ROLL
rotates at speeds from 0 to 100 ipm

Three basic models of the improved TracTred turning roll for positioning weldments support cylindrical workpieces in a roller chain sling. This feature pro-

vides a large area of contact and permits equipping the idler roll with brass feet to conduct the weld ground current from the workpiece. Model T1 has a single-strand Trac, model T2 a double-strand Trac and model T3 a three-strand Trac, in both idler and power units. Current carrying capacities are 600, 1000 and 1500 amp, respectively. Rotational speed is 0 to 100 ipm and load capacities are 6000, 12,000 and 18,000 lb. Power units have rubber feet which aid in turning out-of-balance work. Units for diameter ranges of 4-10, 6-12, 8-14 and 10-16 ft are available. Made by **Aronson Machine Co.,** Dept. ND, Arcade, N. Y.

▲ For more details circle **NED-206 E4** on enclosed inquiry slip ▲

QUICK-ACTING VISE
available with jaws up to 60 in.



Springs incorporated in the Ava Quick-Action vise enable the user to lock parts tightly in just few seconds. Portable or attachable, it can be used in any position for holding all types of parts, assemblies, weldments, etc. Vise is designed for industrial use and is offered with jaw openings from 6 to 60 in., in multiples of 6 in. Two lever springs provide a slight squeeze up to 300 lb when jaws are closed. User can alter shape of jaws with addition of rubber sleeves or clip-on plates of plastic, copper or other materials. Made by **Evanson Equipment Co.,** Dept. NED, 33 Warren St., Newark 2, N. J.

▲ For more details circle **NED-207 E4** on enclosed inquiry slip ▲

DO YOU KNOW? "Heat Treating Aluminum Alloys" is a 122-page illustrated manual which deals with the metallurgy involved in the heat treatment of aluminum alloys. Written in a simplified, nontechnical style, this 6 x 9-in. guide book will be sent without charge to engineers, metallurgists and technical men requesting it on their company letterhead. To others the price is $1.00. Write to Reynolds Metals Co., 2500 S. Third St., Louisville, Ky.

▲ For more details circle **NED-208 E4** on enclosed inquiry slip ▲

INSTANT FLOOR PATCH

REPAIRS BROKEN CONCRETE IN A HURRY!

TEST ON TRIAL OFFER

Patch broken concrete floors without tying up plant traffic. Use durable INSTANT-USE—a tough plastic material which takes traffic immediately. Ideal for repairing cracks, holes, ruts. Bonds tight to old concrete . . . right up to a feather edge.

JUST TAMP! TRUCK OVER!

Simply shovel INSTANT-USE into hole or rut—tamp—and your floor is restored to solid smoothness—ready for traffic. Used indoors or out. Immediate shipment.

MAIL COUPON FOR TRAIL OFFER

INSTANT-USE

FLEXROCK COMPANY Offices in principal cities
3603 Filbert St., Philadelphia 1, Pa.

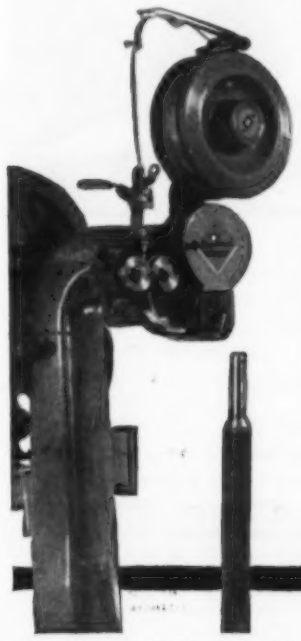
Please send me complete INSTANT-USE information, details of TRIAL ORDER PLAN and HAND BOOK OF BUILDING MAINTENANCE—no obligation. (Clip and attach Coupon to Co. letterhead.)

Name ..... Title .....
Company .....
Address .....

▲ For more details circle **NED-209 E4** on enclosed inquiry slip ▲

Add an Acme Steel 25-pound coil holder
to your present wire stitching equipment

Stitch 2½ times longer without stopping



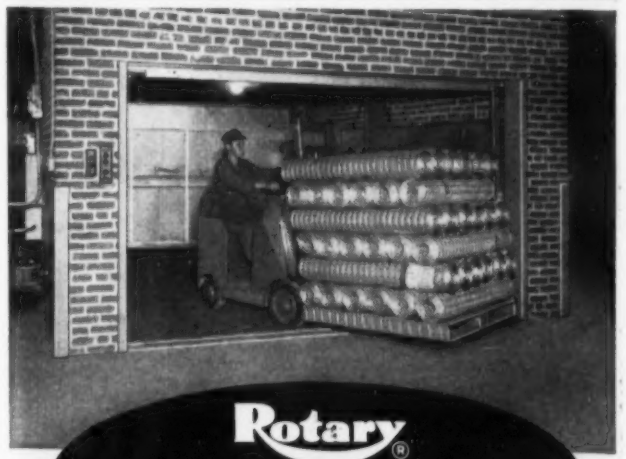
The rugged new Acme Steel 25-pound coil holder means less down time on your wire stitching operations, both because it holds 2½ times as much wire as the conventional 10-pound coil holder, and because it's easier and faster to load. Features are tangle-free wire feed and positive shoe-type brake. For details, write Acme Steel Products Division, Dept. NED-54, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

STITCH IT...STRAP IT... SHIP IT...SAFELY!

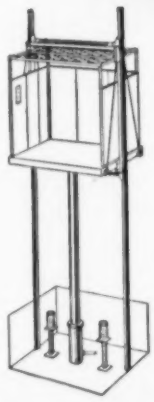
ACME STEEL

▲ For more details circle **NED-210 E4** on enclosed inquiry slip ▲

Most Economical ELEVATOR
for new installations or replacements



Rotary® OILDRAULIC® ELEVATOR



Save money on installation and operating costs

- Modern hydraulic operation
- No costly, unsightly penthouse
- Smooth starts and stops
- ¼" accuracy on landings
- Rugged car construction
- Engineered for power trucks
- High Efficiency power units
- Low upkeep expense
- New Oildraulic Controller
- Freight or passenger service
- Capacities up to 100,000 lbs.

Over 75,000 Oildraulic elevators and lifts are now in use . . . backed by Rotary's coast-to-coast organization.

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Send catalog on Rotary Oildraulic Elevators to:

Name_____

Address_____

_____

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INCREASE PRODUCTION EFFICIENCY...

with FINGER-TIP CONTROL

LOVEJOY variable SPEED PULLEYS

A turn of the hand is all that is required for instant speed adjustment on your machinery. Changes in production schedules, operator speed correction or specification variations are accomplished without loss of time or labor. Sizes from fractional to 10 h.p. Ratios from 3 to 1.

WRITE TODAY for fully illustrated catalog and engineering manual

LOVEJOY FLEXIBLE COUPLING CO.

4803 W. Lake St. Chicago 44, Ill.

Also Mfrs. of Flexible Couplings, Universal Joints and Variable Speed Transmissions

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Now time your jobs AUTOMATICALLY with CALCULAGRAPH!

Prints date..

starting time..

finishing time..

— and total elapsed time!

Save time and eliminate clerical errors with Calculagraph accurate-to-the-minute, printed job time records. Use these data cards for computing costs, estimating on reorders. One Calculagraph can record job time data for an entire shop or department.

NEW! AUTOMATIC DATER!

Standard on all electric models. Automatically changes date — eliminates incorrect dating of records.

ASK FOR COMPLETE INFORMATION, TODAY

Illustrated literature and sample job cards will be sent promptly on request. Just call or write Dept. 302

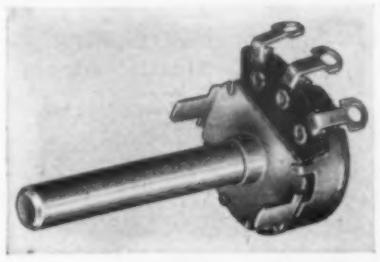
CALCULAGRAPH COMPANY

Sussex St., Harrison, New Jersey

STANDARD OF ACCURACY SINCE 1892

▲ For more details circle NED-213 E4 on enclosed inquiry slip ▲

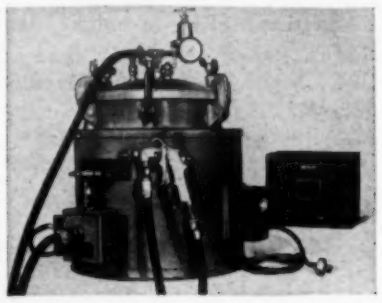
VARIABLE RESISTORS
miniature units are tab-mounted



Designed for tab-mounting in printed circuits or as rear-of-chassis control, type LR5 variable miniature resistors measure 0.894 - in. diameter. They dissipate a full 0.5-w and can be supplied with any of nine different line switches. Mounting is by two tabs extending from the front covers which are inserted into angular slots in the mounting plate and are then twisted. Shaft can be furnished with a knurl, a slot, or both. Made by **Stackpole Carbon Co.,** Electronic Components Div., Dept. NED, St. Marys, Pa.

▲ For more details circle NED-214 E4 on enclosed inquiry slip ▲

WAX SPRAYING EQUIPMENT
semiportable unit melts electrically



Semiportable wax spraying unit has hand-held spray gun with trigger control and can be used with any commercial grade of wax. Resistance wire circuits baked on tank provide 3 to 4 w per square inch with even heat distribution. Heat level is controlled by thermostats or electronic devices as required. Tank is of pressurized type and both hose and spray gun are heated. Tank capacities are 5, 10, 25 or more gallons and either 110 or 220-v ac heating circuits are available. Unit is designed to speed up coating operations. Made by **Sta-Warm Electric Co.,** 130 N. Chestnut St., Ravenna, O.

▲ For more details circle NED-215 E4 on enclosed inquiry slip ▲

GROUND CLAMPS
redesigned to fit the hand

New angle of cable socket in redesigned arc-welding ground clamps, plus provision for additional fastening of cable in back of socket serve to reduce strain and damage to cable. Unit has been designed to fit the hand, works easily and fast and opens wide to grip workpiece. Large, flat contact area of copper alloy upper tong has been retained to insure conductivity between clamp and work. Clamps are made in three models to fit cable sizes 4 through 4/0 by **Jackson Products, Inc.,** 31741 Mound Rd., Warren, Mich.

▲ For more details circle NED-216 E4 on enclosed inquiry slip ▲

SpeedWay

SpeedMaster HEAVY DUTY INDUSTRIAL DRILLS

Capacities

No. 500 ½" — ⅜" ½"

No. 250 ¼" — ⅛" 1/16" ¼"

SpeedMaster portable electric drills are designed and built to stand up under continuous operation at full capacity. They have sealed ball bearings throughout; have broad face gears cut on centers, and every standard, industrial quality feature. They also have the special SpeedMaster advantages of: extra power; cast-in frame supports, bracing, cooling system, etc. —nothing to loosen or rattle; as well as SpeedWay's lighter weight, handiness and in-line thrust that makes straight drilling natural.

SPEEDWAY STANDARD DUTY DRILLS

These handy, economical drills are the logical drills for maintenance, construction, installers and service men. Cast-in aluminum construction. More power per pound than ordinary drills. They will give lifetime service.

Write for Catalog

SpeedWay MANUFACTURING CO.

1892 South 52nd Ave. Cicero 50, Illinois

▲ For more details circle NED-217 E4 on enclosed inquiry slip ▲

DON'T RISK STATIC ELECTRICITY EXPLOSIONS

These LEGGE Conductive Products Prevent death, destruction, lawsuits

ELIMSTAT: A conductive coating, painted on your floors at a cost of only pennies a foot. Disperses dangerous currents. Meets N.F.P.A. requirements.

BOOTIE: Worn comfortably over any shoes, the Conductive Bootie safely drains currents from skin to floor. Retains effectiveness even after hundreds of launderings. In 4 sizes, for men and women. Conforms with N.F.P.A. Code #56.

NoSTAT: A grounding device that protects personnel against static charges. Clamped on sole of shoe, connected by bead chain to leg garter. Per N.F.P.A. Code #56.

SAFESTAT: Grounds equipment or machinery to conductive floor. 7" x 7" metal plate *never* loses contact even if moved or kicked. Per N.F.P.A. Code #56.

Act now—before disaster strikes. Write for folder and full information.

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Dept.ND5, 101 Park Ave., New York 17, N. Y. Branch offices in principal cities.

YOU'RE SAFE WHEN YOU HAVE LEGGE TO STAND ON — LEGGE SYSTEM of Safety Floor Maintenance

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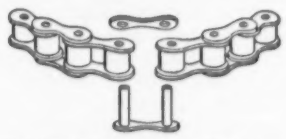
New ROLLER CHAIN BREAKER

BREAK CHAIN IN SECONDS without damage to chain.



BREAKS ANY SIZE CHAIN No. 25 to No. 60.

BOSTON GEAR QUALITY THROUGHOUT Vital parts heat treated for wear-resistance and high strength.

AT YOUR BOSTON Gear DISTRIBUTOR Ask for new Chain Breaker folder. Explains simple operation.

Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

BOSTON Gear

POWER TRANSMISSION PRODUCTS

▲ For more details circle NED-219 E4 on enclosed inquiry slip ▲

Send for your FREE SAMPLE of the Amazing New Lubricant

Prove to yourself its extraordinary performance

Molylube Anti-Seize is a highly concentrated *non-melting* molybdenum disulphide grease having the phenomenal capacity to prevent galling and seizing at bearing pressures well over *100,000 pounds per square inch.* It has excellent lubricating qualities at low temperatures and elevated temperatures up to 750°F.

BEL-RAY CO., INC. Special Lubricants MADISON, NEW JERSEY

BEL-RAY COMPANY, INC.

MADISON, NEW JERSEY

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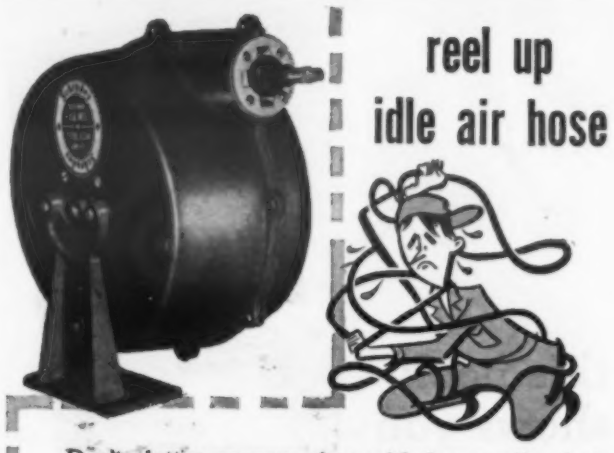


reel up idle air hose

Don't clutter up your shop with loose coils of air hose. See how **Schrader's "Tuck-Away Hose Reels** will add new safety to your use of air – how they'll keep air lines out of harm's way . . . eliminate a traffic hazard in your shop.

Compact, easy to install, Schrader Hose Reels deliver just the wanted length of hose, rewind it quickly with a slight tug.

Write for details on the Schrader "Tuck-Away" Hose Reel and other Schrader air accessories that will help you get the most out of your air line equipment. Write Schrader today.

A. SCHRADER'S SON

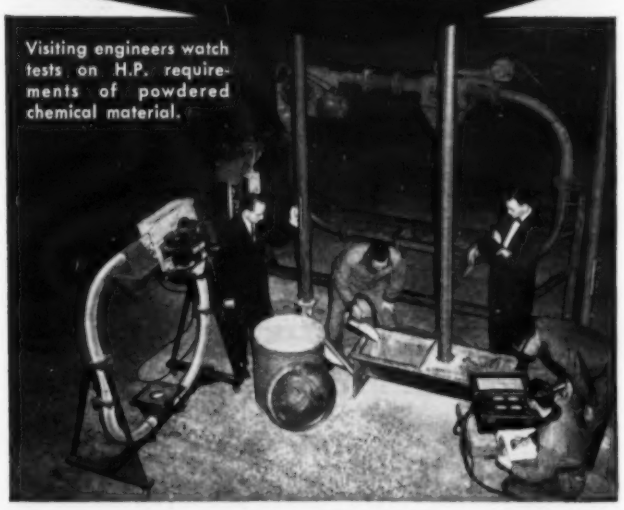
Division of Scovill Manufacturing Company, Incorporated

459 Vanderbilt Ave. Dept. E-47 Brooklyn 38, N. Y.

For more details circle **NED-221 E4** on enclosed inquiry slip

HERE'S HELP!

Hapman ENGINEERS PROOF-TEST *your* bulk flowable materials in **TUBULAR CONVEYORS**



Visiting engineers watch tests on H.P. requirements of powdered chemical material.

CAN YOUR PLANT'S BULK flowable materials be handled — at maximum savings — by Hapman Tubular Flight Conveyors with Sealed-pin Chain? Very likely... *but there need be no guesswork about it!*

AS A SERVICE TO YOU, Hapman can proof-test a sample of your material — wet or dry — to determine its conveying characteristics. Often tests are not needed, because years of operation have been logged with scores of materials . . . from metal chips and carborundum dust to foods, pharmaceuticals, coal and chemicals.

IF SECRECY REQUIRES, a test conveyor can be shipped to your plant at nominal cost. Hapman Engineers cooperate fully in solving bulk materials handling problems. Because Hapman Conveyors are liquid-tight, dust-tight, explosion-proof, you'll find them *amazingly adaptable.* Request details, mentioning material you wish to handle.

WRITE TODAY FOR BULLETIN ND-554

Hapman CONVEYORS, INC.
DIVISION HAPMAN-DUTTON COMPANY
KALAMAZOO MICHIGAN

In Canada: Canadian Vickers Ltd., Montreal

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MASONRY DRILL
spiral model with carbide tip

Concrete, brick, slate, marble and other types of masonry materials can be penetrated easily and quietly by the Chicago-Latrobe fast-spiral carbide-tipped masonry drill. Sharp edged holes are produced without danger of breaking sidewalls, even when holes are closely spaced. Fast spiral removes dust from the hole rapidly. Drill is made in sizes from 1/8 to 1 1/2 in. by 16ths and in extra lengths to 18 in. Made by **United Drill & Tool Corp.**, Chicago-Latrobe Div., 413 W. Ontario St., Chicago 10, Ill.

For more details circle **NED-223 E4** on enclosed inquiry slip

GRIPPING FIXTURES
for filament tensile testing

Gripping fixtures are designed to facilitate accurate tensile testing of such materials as fine gage thread or wire and do not impair the specimen strength as a result of their clamping action. Full tensile strength is not brought to bear on specimens until after they have been passed two or more times around self-aligning polished drums, which operate on free-swing pivots so that true vertical pull is exerted. Grips weigh approximately 1/4-oz, and are compact, having drum diameter of 1/2-in. Made by **W. C. Dillon & Co.**, Dept. NED, 14620 Keswick St., Van Nuys, Calif.

For more details circle **NED-224 E4** on enclosed inquiry slip

PUNCH PRESS
20-ton deep throat type

Suitable for use either in the toolroom or for production work, 20X deep throat press is rated at 20 tons capacity. It is inclinable, can be locked in any position and can be furnished with variable speed drive and automatic lubrication. Moving parts are precision ground or hand scraped, and die forged crankshafts and ball screws are fitted. Two-button operator and non-repeat attachments are available. Made by **Walsh Press & Die Co.**, 4707 W. Kinzie St., Chicago 44, Ill.

For more details circle **NED-225 E4** on enclosed inquiry slip

General Container Engineering

CAN HELP YOU CUT PACKING and SHIPPING COSTS

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ENGINEERED CONTAINERS FOR EVERY SHIPPING NEED

General Box
1859 Miner Street, Des Plaines, Illinois

For more details circle **NED-226 E4** on enclosed inquiry slip

NEW! LOW PRICE MOBILE TANK SPRAYER

No. 450 Complete Outfit
$169.00
With rubber tired wheels and rubber pads, internal mix spray gun, tire chuck and air hose.

Automatic pressure switch starts motor when pressure in tank drops to 30 lbs.—shuts off at 45 lbs. Twin compressor mounted on heavily welded 11 1/2 gal. tank delivers 4 cu. ft. of clean, oil-free air per minute. Equipped with 1/2 h.p. A.C. motor, factory lubricated. Dozens of handy maintenance and production uses. Ask your mill supply house or write direct for catalog.

Write today for catalog
Compressors High & Low Pressure
Paint Sprayers
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SPECIALISTS IN PORTABLE SPRAYERS FOR OVER 20 YEARS

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ORDER **JOHNSON ELECTRIC MOTOR BEARINGS** *from Stock*

All necessary information is listed in the catalog . . . merely identify the bearing and order by bearing number. There are over 340 different Johnson E M Bearings . . . each one correct in design, alloy and tolerance . . . ready for immediate installation. Order from your local Johnson Distributor.

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JOHNSON BRONZE COMPANY
580 South Mill Street · New Castle, Pa.

JOHNSON JB BEARINGS *Sleeve-Type*

For more details circle **NED-228 E4** on enclosed inquiry slip

IF YOU USE SPECIALTY WIRE

(or are planning to use it)

YOU SHOULD GET THIS NEW BOOKLET!

Here, in one 16-page pocket-size illustrated booklet, you get useful facts on:

- How to get consistent uniformity of wire on every order
- Help on matching wire to your job requirements
- Interesting product problems solved with wire
- Useful tables of tensile ranges and data on feet per pound of various wire diameters

Find out how you can solve your production or product performance problems with higher quality Webb CARBON AND STAINLESS NEEDLE WIRE . . . STAINLESS SPRING WIRE . . . HIGH CARBON WIRE . . . SPECIALTY STAINLESS WIRE. Use coupon below.

The Carpenter Steel Company | **Webb Wire Division**
17 Liberty St., New Brunswick, N. J.

MAIL COUPON FOR YOUR FREE BOOKLET

Please send me your booklet, "A Look At Wire Making the Webb Way."

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

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NEW DESIGN IDEAS

for using neoprene,
Du Pont's chemical rubber,
are suggested by reports
on how new products are
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in every issue
of the free

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NEOPRENE

The rubber made by Du Pont since 1932

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A Faster, Stronger Tie for Less Money

USS GERRARD STRAPPING

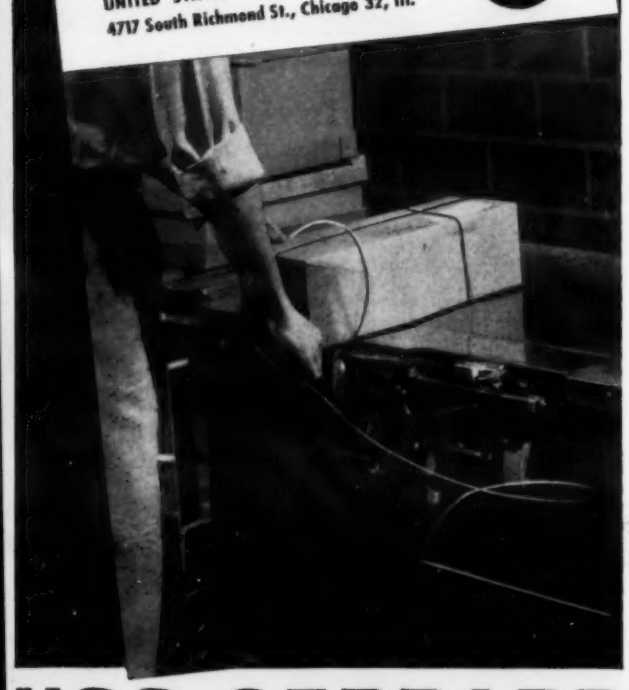
● We'll waste no time getting to the point. It's true. Gerrard Round Steel Strapping actually costs about 40% *less* than any other form of metal reinforcement. And it's easier to apply because it's flexible . . . conforms to any shape . . . clings snugly to the package. As for speed—the semi-automatic Model "Q" machine shown below snaps out 12 to 15 secure, pilfer-proof ties per minute.

You can realize an additional savings by making Gerrard your headquarters for steel strapping—Round *and* Flat. One source buying saves freight charges and reams of paper work.

Look into it now. A Gerrard engineer will be glad to point out to you all the specific applications and advantages of Gerrard Round and Flat Steel Strapping that will *save you money*.

GERRARD STEEL STRAPPING DIVISION
UNITED STATES STEEL CORPORATION
4717 South Richmond St., Chicago 32, Ill.

USS



USS GERRARD
ROUND STEEL **STRAPPING** FLAT STEEL
UNITED STATES STEEL

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CIRCULATING PUMP
steam jacket heats liquids

Steam jacket which entirely surrounds the pump of this circulating motor-pump combination is designed for heating liquids which must be handled at constant temperatures ranging from 200 to 225° F. Motor is rated at ¼ hp at 1725 rpm, and pump is a vane-type unit with a capacity of 5 gpm. It is self-priming and self-draining during off periods. Made by **Blakeslee Mfg. Co.,** Yards Rd., Salem, Ill.

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MAGAZINE FEED
for automatic screw machines

Second operation work can be performed semiautomatically on Brown & Sharpe automatic screw machines with use of magazine attachment. Complete setup consists of feed magazine, cams, form tools and chuck with ejector and inserting tool. Magazine is mounted on front cross slide of machine. One operator can handle additional automatics while keeping chute in magazine filled. Parts can be automatically ejected and dropped into work pan. Made by **Alco Tool Co.,** 452 Birdseye St., Bridgeport 4, Conn.

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SOLENOID VALVES
5000 psi stainless steel models

Made with valve bodies of type 303 stainless steel and solenoid armature of type 416 stainless, this solenoid direct lift valve is offered in ⅛ and ¼-in. pipe sizes for use in handling corrosives. Pressure ratings are 5000 psi to 150° F and 2500 psi to 400° F. Orifice sizes range from 1/16 to 3/16-in., depending on pressure requirements and coil used. Paper wound or glass impregnated coils are used according to temperature range. Made by **Atkomatic Valve Co.,** Dept. B203, 545 Abbott St., Indianapolis 25, Ind.

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50 years in the making

BLACKMER'S "Gold Seal" TRUCK PUMP

Long life and economical operation is assured BLACKMER'S customers with a new design which represents 50 years of experience in building the famous Rotary Pumps which are,

"SELF-ADJUSTING FOR WEAR"

The new design incorporates all of the time tested BLACKMER features plus:

The BLACKMER CARTRIDGE-TYPE *Mechanical Shaft Seal. Heavy Duty Anti-friction Bearings completely protected from the pumpage.*

Available in two sizes, 2½" and 3", rated at 100 GPM and 200 GPM respectively. "Listed by Underwriters' Laboratories, Inc."

Write for complete details.

BLACKMER *liquid materials handling*

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Industrial, Hand and Truck Pumps, Strainers, Pressure Control Valves
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DIVISION SALES OFFICES — NEW YORK • ATLANTA • CHICAGO
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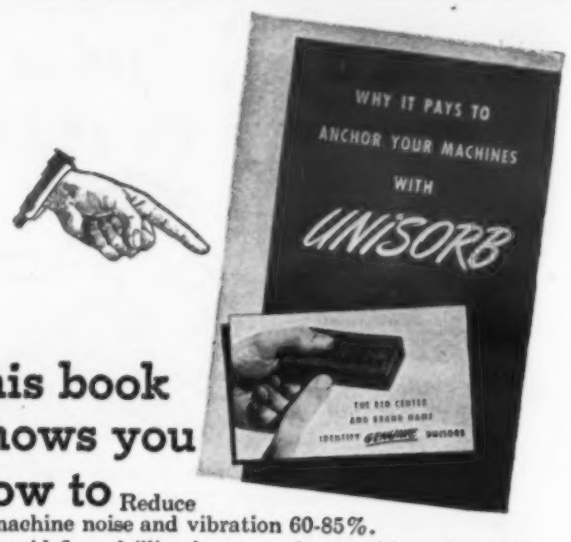

this book shows you how to Reduce machine noise and vibration 60-85%.

Avoid floor drilling by mounting machines the modern way, without bolts or lag screws.

Reduce maintenance costs by eliminating transmitted vibration which damages machines, floors and buildings.

Save time and money when installing new machinery or repositioning present machinery.

Write today for your free copy of "Why It Pays To Anchor Your Machines With UNISORB."

THE FELTERS COMPANY
224 South Street, Boston 11, Massachusetts

UNISORB® MOUNTINGS are used with our special adhesive. UNISORB is also available precoated with adhesive, for use with machines that do not require shimming.

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Here's something NEW in straight-form thermometers

THEY OFFER THESE OUTSTANDING PLUS FEATURES

DURABILITY — All parts of the new Rochester straight-form thermometers (except crystal) are of corrosion-resistant stainless steel. All are fused into a single unit by an exclusive welding process. Hermetic sealing assures easy reading of dial under any operating condition. No clouding.

EXTERNAL RECALIBRATION — Only Rochester thermometers can be recalibrated externally. A screw adjustment permits you to restore accuracy even if you knock the thermometer out of adjustment with a hard blow.

SELECT YOUR STEM POSITION — This thermometer is ordinarily supplied with the stem located at the bottom. However, it can be placed at the location you desire around the entire dial circumference. Available in stem lengths from 2½ to 48 in. **Rochester Manufacturing Company, Inc., 114 Rockwood Street, Rochester 10, N. Y.**

Write for further information.

Rochester
MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS GAUGES AMMETERS

ROCHESTER GAUGES DEPENDABLE ACCURACY

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The Shah of Tomora
And his pachyderm Laura
Strained all their muscles
And bust all their bustles
But couldn't budge that CARDORA.

Why use primitive methods to open balky, hard-to-roll boxcar doors? Why endanger lives and limbs? Why waste labor, time and money? THE NOLAN ONE-MAN CAR DOOR OPENER OPENS ANY BOXCAR DOOR IN 20 SECONDS OR LESS!

A few quick pulls on the anchor chain by one man and the door rolls open. The NOLAN saves its low initial cost in the first hour of operation.

NOLAN ONE-MAN CAR DOOR OPENER

$37.50 F.O.B. Bowerston

Order one or more now!
Free literature

THE NOLAN COMPANY 128 Pennsylvania St., Bowerston, Ohio

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HALLOWELL®
SOLID STEEL COLLARS

now size-marked for easy identification

42 stock sizes—each marked with shaft diameter for easy identification—are now available at your HALLOWELL distributors'. And these precision machined solid steel collars—in sizes from 3/16" to 3" inclusive—have the famous self-locking UNBRAKO Socket Set Screw to assure positive positioning on the shaft.

Write for literature and the name of your nearest HALLOWELL distributor. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

HALLOWELL POWER TRANSMISSION DIVISION **SPS** JENKINTOWN PENNSYLVANIA

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This torque tool leads a
DOUBLE LIFE

FIRST it's a torque screw driver — THEN it's a torque wrench!

This scientifically accurate Apco torque tool does double duty. You can use it for driving screws where tension must be measured accurately. Then, remove the bit . . . substitute a socket, and presto — it becomes a vertical torque wrench that can be used to tighten nuts up to 100 inch pounds. Available in 13 size ranges — in inch grams; inch ounces; and inch pounds.

Here's your chance to save money . . . with two tools in one! This minutely accurate torque tool is made with the same care that characterizes all Apco Mossberg Torque Tools. Send for complete facts. Apco Mossberg Company, 161 Lamb Street, Attleboro, Mass.

APCO MOSSBERG COMPANY
ATTLEBORO, MASS.

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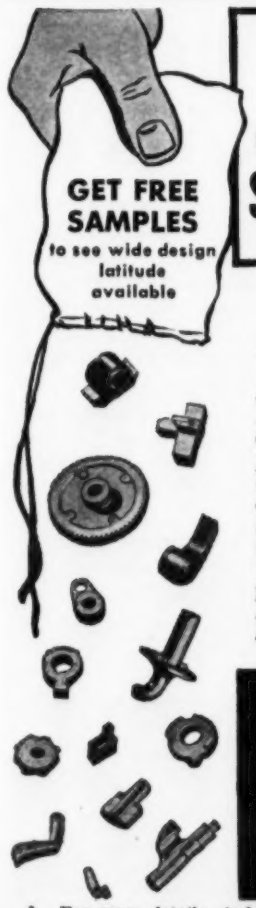

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thru high speed die-casting of
SMALL METAL PARTS

1000 per lb. to 3 per lb.

IF you use small metal parts in quantity, investigate this way to cut piece-costs . . . consolidate parts . . . reduce machining operations. Our special small parts machines are *fully automatic* . . . combine the design latitude of die-casting with production rates comparable to screw machines, stamping presses, etc. Attractive tool costs. Send for "Small Parts Folder & Samples" . . . or send prints or samples for quotation. *Dollin Corporation, 612 So. 21st St., Irvington 11, N.J.*

DOLLIN
SMALL ZINC DIE-CASTINGS

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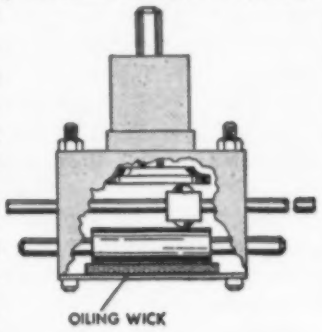
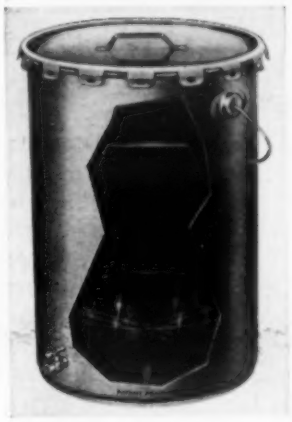
BALL & DISK INTEGRATOR
for totalizing, rate determination

Improved ball and disk integrator is designed for use in totalizing, rate determination, in differential analyzers, or as a closed loop mechanical servo-element or a precision variable speed drive. Highly finished balls and tungsten carbide disk are employed, and permanent lubricating wick uses lubricating oil to Army, Navy and Air Force specifications. Unit weighs 21 oz, is 1 7/8-in. wide, 2 3/4-in. long and 3 1/4-in. high. Made by **Librascope, Inc.,** 1608 Flower St., Glendale, Calif.



▲ For more details circle **NED-242 E4** on enclosed inquiry slip ▲

SMALL PARTS CLEANER
is air operated



Automatic small parts cleaner is designed for attachment to standard air hose as its power source. Eight air jets in 6 1/2-gal tank set up turbulence pattern that activates cleaning solvent so that it penetrates the smallest cracks and crevices in parts being cleaned. Jetisoil solvent is designed for use in this Jet-Action small parts cleaner, prepared so that it does not break down under air agitation. Made by **Turco Products, Inc.,** Dept. E-7, 6135 S. Central Ave., Los Angeles 1, Calif.

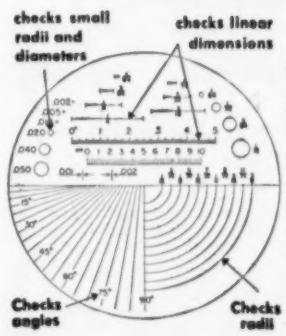
▲ For more details circle **NED-243 E4** on enclosed inquiry slip ▲

DIGITAL METER
measures volts, ohms, milliamperes

Serving as a combination digital volt-ohm - milliampere meter, the Digitester has an accuracy of 0.1-per cent and 0.8-second speed. Readout is in decimal numbers. Instrument has wide measuring ranges: up to 10 megohms in seven ranges; 1000 v in six ranges; or 1 amp in six ranges. Maximum accuracies on lowest scales are ±0.01-ohm, ±0.00001-v and ±0.01-microamperes. Made by **Telecomputing Corp.,** Engineering Dept. UTN, 133 E. Santa Anita Ave., Burbank, Calif.

▲ For more details circle **NED-244 E4** on enclosed inquiry slip ▲

THE
Original BELL & HOWELL Pocket Comparator



Saves time and money inspecting small dimensions

● Here's *guaranteed* accuracy in checking small dimensions at a price any business can easily afford. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as chamfers, threads and small holes on production parts.

Thousands in use by America's leading precision manufacturers. It's the greatest time-saver since the micrometer!

price only **$36.00** order today

a product of **BELL & HOWELL CO.** distributed ONLY by

See Your National Tool Co. Representative or Local Jobber
NATIONAL TOOL CO.
11210 Madison Avenue Cleveland 2, Ohio

Write for **FREE** descriptive folder

▲ For more details circle **NED-245 E4** on enclosed inquiry slip ▲

From Tank to Torch... for easier handling

2 Hoses Bonded Together

Quaker

TU-LINE WELDING HOSE

Put real safety and savings between tank and torch with this Quaker-engineered dual line hose. No kinking, tangling or fouling. Two individual lines are fabricated into one hose unit by the most modern lead-mould process. Thick, tough, abrasion-resistant covers are red and green for quick hook-up identification. Furnished in coupled or uncoupled lengths. For the most in economy, insist on TU-LINE hose . . . another Quaker quality product for modern production efficiency.

Write for free folder and name of nearest distributor.

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
OF PITTSBURGH
PHILADELPHIA 24, PA. BRANCHES IN PRINCIPAL CITIES

▲ For more details circle **NED-246 E4** on enclosed inquiry slip ▲

Goodyear Industrial Tires are right because they're job-fitted

—by your Goodyear Dealer—distributor of America's most complete line of Industrial Tires

Solid Fact For Solid Users – Get Goodyear's even-wearing Xtra Cushion Solid Tire in the All-Service Tread (shown above) for superior traction and greater cushioning.

ARE you using the wrong industrial tires in your operation—are they causing costly delays—increasing your "down time"? Call your Goodyear Dealer and let him recommend "the right tire for the right job"—Goodyear Industrial Tires that are *three ways right.*

RIGHT SIZE—*for your equipment.* Goodyear has over 100 different solid tire types and sizes plus a full line of pneumatic and semi-pneumatic tires.

RIGHT TREAD – *for your plant's floor surfaces.* Smooth and Grooved for easy rolling. All-Service or the famous All-Weather, wherever traction is needed.

RIGHT COMPOUND – *for longer tire life.* Goodyear offers you either UNiversal chip-resistant or Neoprene oil- and acid-resistant compound at no extra cost.

For a free job-fitted tire appraisal in your plant, call your local Goodyear Dealer or write: Goodyear, Industrial Tire Sales, Akron 16, Ohio.

USE THE RIGHT TIRE FOR THE RIGHT JOB—USE

GOODYEAR
INDUSTRIAL TIRES
Xtra Cushion, All-Weather, All-Service—
T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio.

▲ For more details circle **NED-247 E4** on enclosed inquiry slip ▲

VERTICAL or HORIZONTAL

THE MOST
COMPACT CONVEYOR
FOR BULK MATERIALS

FORT WORTH Screw Conveyors and vertical Screw Elevators provide the most compact means of conveying or elevating bulk materials, such as grain and other free flowing products. Space occupied is less than half that of most other types of conveyors.

Vertical screw elevators are used to lift materials up to 70 feet, depending on the nature of the product.

Initial cost is low.
A minimum amount of upkeep is required.

WRITE FOR CATALOG 200B

OTHER FORT WORTH PRODUCTS
V-BELT DRIVES
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

FORT WORTH STEEL & MACHINERY CO.
Dept. 225, 3600 McCart St., Fort Worth, Texas

▲ For more details circle NED-248 E4 on enclosed inquiry slip ▲

KELLER AIR MOTORS

- Compact design with high power-to-weight ratio. Enclosed construction.
- Efficient with either high or low air pressure.
- Positive-acting, piston-type, constant torque motors with infinitely variable speed in either direction.
- ½ To 2¾ hp in a wide range of speeds and torques.

Send for illustrated descriptive Bulletin No. 70

KELLER TOOLS

Keller Tool Company
1331 Fulton St.
GRAND HAVEN, MICHIGAN

▲ For more details circle NED-249 E4 on enclosed inquiry slip ▲

Buffalo CASTERS

light, medium and heavy duty . . . for every need

There are Buffalo Casters to meet the requirements of your particular load, floor or job. A complete line of rigid, swivel, cone stem and trailer casters—with steel, rubber-tired, pneumatic or cushion wheels—sturdily built to give you long years of dependable, trouble-free service. Before you buy any casters, compare the selection and values offered by Buffalo.

BUFFALO CASTER & WHEEL CORP.
1032 Broadway, Hamilton, Illinois

SEND COUPON FOR FREE CATALOG

Buffalo Caster & Wheel Corp., Dept. 16
1032 Broadway, Hamilton, Illinois
Without obligation please send me complete information about Buffalo Caster and Wheels.

NAME _____
FIRM _____
ADDRESS _____
CITY _____ STATE _____

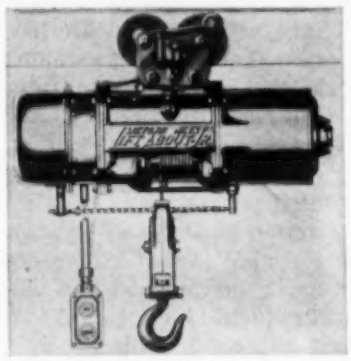
▲ For more details circle NED-250 E4 on enclosed inquiry slip ▲

FLOOR LINE MARKER machine offered in 12 models

Gravity fed Line-O-Matic line marking machines will paint a line as fast as a man can walk. Lines can start close to walls or obstructions. Supplied with standard 4-in. applicator, machine is made in 12 models which feature 10-in. rubber tired ball bearing wheels, metal applicator shoe, bronze shutoff valve and sheet metal tank. Heavy and light duty models are available for marking lines up to 10 in. wide and with tank capacities up to 9 gallons. Applicators for beaded paint are also offered. Made by **Freeman-Huntington Co.**, Dept. ED, 743 Palisade Ave., Yonkers, N. Y.

▲ For more details circle NED-251 E4 on enclosed inquiry slip ▲

ELECTRIC HOIST in ¼ to 1-ton capacities



From ¼ to 1-ton capacities are available in this Lift About-Jr. wire rope type electric hoist which can be furnished with either alternating or direct current motor. Speeds range from 20 to 37 fpm on ac-operated units and from 12 to 25 fpm on dc types. Lift is 16 ft on hook suspension units, 20 ft on all other frame sizes. Hoists can be equipped for either pushbutton or rope operation. Unit employs combined electric brake and control, and a mechanical interlock between hoisting and lowering contactors prevents these units from operating at same time. Safety type load block with fully enclosed sheave, weatherproof enclosures and oil bath lubrication are features. Made by **Shepard Niles Crane & Hoist Corp.**, 1800 Schuyler Ave., Montour Falls, N. Y.

▲ For more details circle NED-252 E4 on enclosed inquiry slip ▲

Automatic Production Control

Reeves Pulley Co.—24-page illustrated bulletin G-537 "Automatic Production Control" shows packaged units for controlling acceleration and deceleration, tension, synchronizing one or more machines, maintaining uniform temperature and pressure, and controlling velocity and peripheral speed. Theory and practice are discussed along with typical industrial applications.

▲ For more details circle NED-253 E4 on enclosed inquiry slip ▲

Check into this

How many men does it take to handle a heavily loaded barrel or drum?

ANSWER: Only ONE if you use a—

SABIN *One Man* BARREL TRUCK

Think of the labor you'll save.

It's easy for a man, without helpers, to pick up and move loads up to 800 pounds. All he does is run truck up to container, hook on at top, and pull back on handle to pick up load. Exclusive Third Wheel Feature assures better balance and safer movement of loads.

WRITE FOR BULLETIN NO. 48-A

The Sabin Machine Co.
6536 Carnegie Ave.
CLEVELAND 3, OHIO

▲ For more details circle NED-254 E4 on enclosed inquiry slip ▲

✓ SAVE UP TO 40% SPACE!
✓ EXTRA HIGH SAFETY FACTOR!
✓ DEPENDABILITY . . . backed by 38 Years of Know-How!

Off shelf delivery all styles to 3" bore in increments of 1" to 12" stroke.

NEW T-J

Spacemaker AIR CYLINDERS

Streamlined design of the new T-J Spacemaker *eliminates tie rods . . . saves up to 40% in mounting space!* It's performance-proved . . . *super rugged* with extra high safety factor . . . solid steel heads . . . heavy wall, precision honed, *hard chrome plated*, seamless steel body . . . leakproof cylinder head to body construction . . . heavy duty, hi-tensile, *hard chrome plated* piston rod.

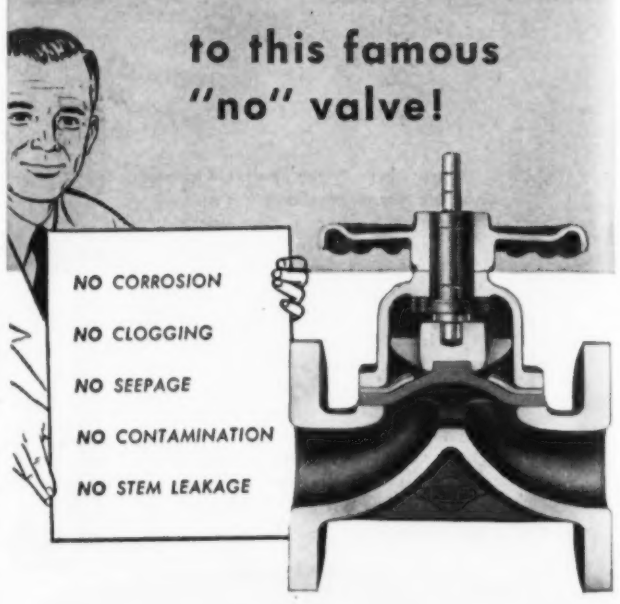
Available with the new T-J Super Cushion Flexible Seals which insure positive cushion with automatic valve action for fast return stroke. Many standard sizes and styles . . . for pushing, pulling, lifting, clamping or control jobs. T-J dependability. Write for bulletin 454. The Tomkins-Johnson Co., Jackson, Mich.

T-J TOMKINS-JOHNSON
RIVETORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHORS

▲ For more details circle NED-255 E4 on enclosed inquiry slip ▲

Say Yes . . .

to this famous "no" valve!



For better results, use the versatile

GRINNELL-SAUNDERS DIAPHRAGM VALVE

Piping in today's complex industrial plants is an exacting science involving the handling of highly corrosive fluids, gases, compressed air, beverages, foods and suspended solids . . . in lines where corrosion, abrasion, contamination, clogging, leakage and maintenance are costly factors. Under such conditions, the amazing performance of the Grinnell-Saunders Diaphragm Valve explains its acceptance by industry after industry.

The basic design of the valve is one big advantage. Working parts are completely isolated from the fluid stream which, in the case of corrosive acids, means longer valve life. Then, there is the matter of economy. With Grinnell-Saunders Diaphragm Valves, it is usually possible to go to less expensive body materials, to which special body linings can be added. Replacement and maintenance expenses, moreover, are greatly reduced. No wonder industry after industry is "Saying Yes" to Grinnell-Saunders Diaphragm Valves. Write for catalog.

GRINNELL
WHENEVER PIPING IS INVOLVED

Grinnell Company, Inc., Executive Offices, Providence, R. I.
Sales Offices and Warehouses in Principal Cities

▲ For more details circle NED-256 E4 on enclosed inquiry slip ▲

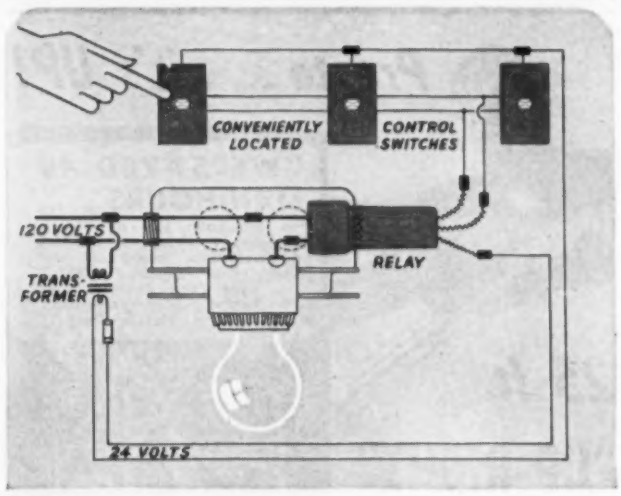
Red Arrow LIFT TRUCKS

single stroke
lift truck
quick,
automatic action
easy rolling
positive safety
easy lift
easy steer

Lowest costing Lift Truck you can buy, the Red Arrow features speed, economy, and unusual ease of operation. Maintenance cost is remarkably low. Machined, standardized parts and machine-bolted frame speed and simplify occasional repairs . . . eliminate downtime. In time and manpower saved, the Red Arrow pays for itself many times a year on the job.

LIFT TRUCKS INCORPORATED
2423-31 Spring Grove Avenue • Cincinnati 14, Ohio
HYDROELECTRIC, HYDROMATIC and RED ARROW LIFT TRUCKS

▲ For more details circle NED-257 E4 on enclosed inquiry slip ▲



NEW Remote Control Relay System has many industrial uses

● Originally designed for residential applications, this new, Low Voltage Control System has dozens of industrial applications. Relays are controlled from any number of conveniently located switches operating on 24 volts. Only the load circuit is at 120 volts.

Write for Bulletin 1124. Square D Company, 6060 Rivard Street, Detroit 11, Michigan.

SQUARE D COMPANY

▲ For more details circle NED-258 E4 on enclosed inquiry slip ▲

ROCKWOOD SpotPROTECTION SYSTEMS USED FOR SMALL-AREA FIRE HAZARDS

Compact custom-engineered Rockwood SpotPROTECTION Systems are excellent for small-area, though potentially dangerous, hazards like the tank truck loading platform above. Such hazards get on-the-spot fire-choking action when these systems are installed.

Systems handle Rockwood WaterFOG, FogFOAM, FOAM or "WET". Automatic or manual operation. Three sizes: 2, 4 or 6 Heads. Special Systems also available for use with Rockwood FOAM Maker Chambers.

Systems easily replenished with FOAM or "WET", each available in 5-gallon cans or 50-gallon drums.

Write for Rockwood SpotPROTECTION System engineering data sheet to see type of information needed for these carefully engineered Systems.

ROCKWOOD

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses
44 HARLOW STREET, WORCESTER, MASS.

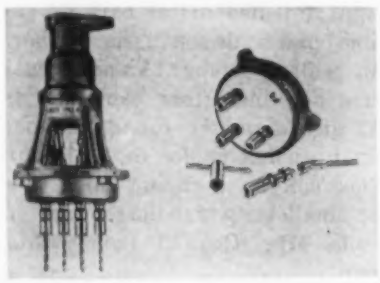
▲ For more details circle NED-259 E4 on enclosed inquiry slip ▲

STROBOSCOPIC TESTER checks rotating equipment speeds

Compact, portable model H Strob-Light uses the stroboscopic principle to check speeds of rotating equipment and to calibrate tachometric devices. Speeds can be checked at 16 intervals between 450 and 3600 rpm and at 10 additional intervals up to 6000 rpm. Operation is on any 115-v, 60-cycle ac circuit. Made by **George L. Nankervis Co.,** 19253 W. Davison Ave., Detroit 23, Mich.

▲ For more details circle NED-260 E4 on enclosed inquiry slip ▲

POSITIONING PLATE for multiple drill head



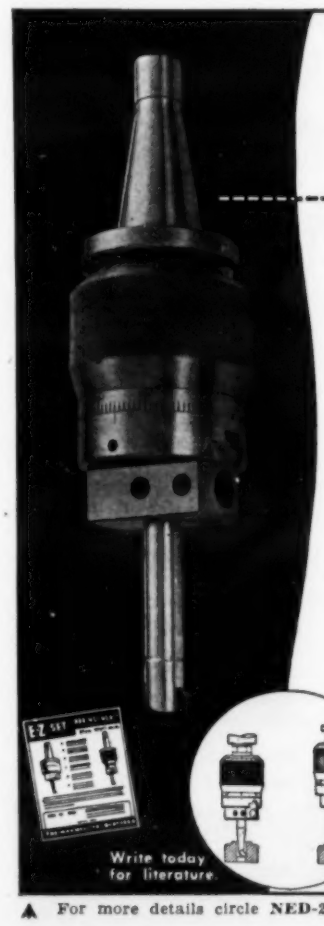
Designed for Commander Multi-Drill multiple spindle adjustable drill head, fixed position plate provides for accurate fast set-up of intermittently run repetitive jobs. Initial set-up requires drilling a hole in the plate for each spindle assembly using a layout guide which is provided. After it is drilled, plate is attached to the head when required for that particular job and is used as a built-in jig. Minimum hole centers of ½-in. and maximum centers of 9 in. are possible. Made by **Commander Mfg. Co.,** 4221 W. Kinzie St., Chicago 24, Ill.

▲ For more details circle NED-261 E4 on enclosed inquiry slip ▲

DIAPHRAGM PUMPS rated up to 6000 gph

Available in 2, 3 and 4-in. sizes, line of diaphragm pumps is rated up to 6000 gph at 10-ft lift and 3000 gph at 20-ft lift. They are available powered by air-cooled gasoline engines or electric motors, with wheelbarrow, two-wheel or base mountings. Pumps do not require priming and will handle any volume from zero to full capacity. They can be used to handle water with high percentages of mud, grit and other foreign materials without clogging. Suction lift is 25 ft. Gear trains are totally enclosed and oil bath lubricated. Portable one and two-wheel mounting styles can be easily handled by one man on the job. Made by **Rice Pump & Machine Co.,** Dept. N, 400 Park Ave., Belgium, Wis.

▲ For more details circle NED-262 E4 on enclosed inquiry slip ▲



Maxwell

BORING-FACING tools

These famous E-Z Set tools have the most efficient, practical power-facing mechanism ever made! They're compact, universally adaptable and feature unusual capacity.

Adjustments to 0.0001-inch are made easily with widely-spaced direct reading micrometer type dial. Adjusting collar is free-turning on ball bearings. Because shanks are interchangeable, these tools can be used on jig-bore, milling machine, boring mill, radial drill or other machine tool.

For fast, accurate boring and facing, specify MAXWELL E-Z Set! 1149-MC

Write today for literature.

THE MAXWELL COMPANY
390 Broadway
Bedford, Ohio

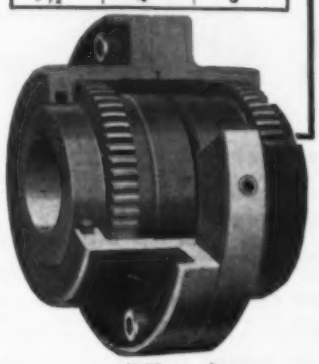
▲ For more details circle NED-263 E4 on enclosed inquiry slip ▲

Now you can choose a smaller, lighter, lower-cost coupling

New LINK-BELT Geared Flexible Couplings have greater bore capacity than other makes

Approx. outside dia. (in.)	Max. bore of Link-Belt coupling (in.)	Largest bore available in most leading makes (in.)
4-9/16	1½	1⅜
6	2⅛	1½
7	2¾	2
8⅜	3½	2½
9½	4	3

With no sacrifice of load capacity, the new Link-Belt Geared Flexible Coupling is designed to accommodate a larger shaft for a given outside diameter. That means you can often apply it where radial clearances are too close for other makes. What's more, the Link-Belt design provides for parallel and angular misalignment with minimum backlash. Get all the facts from your Link-Belt sales office or distributor. Or write for Folder 2375 to Link-Belt Company, 220 S. Belmont Ave., Indianapolis 6, Ind.

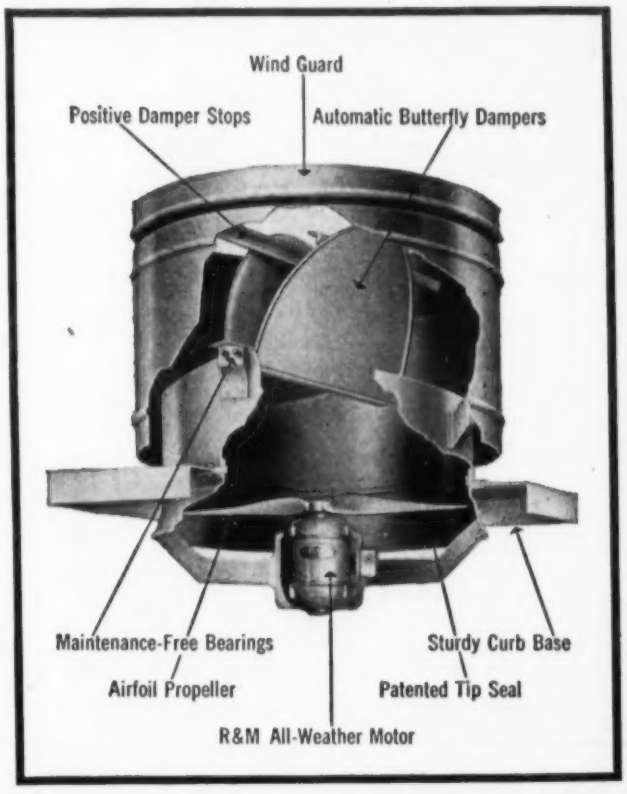


LINK-BELT
GEARED FLEXIBLE COUPLINGS

▲ For more details circle NED-264 E4 on enclosed inquiry slip ▲

SKY-BLAST®

The Modern Power Roof Ventilator



Most economical way to expel heat, fumes, smoke

This modern power roof ventilator is backed by 20 years of research and engineering.

Famed airfoil propeller, powered by the *All-Weather* Robbins & Myers motor, sweeps up heat, moisture, dust, fumes—*then blasts them high into the outside air.* Wind guard and throat design assure constant performance regardless of wind.

Automatic butterfly dampers open wide on minimum fan pressure for guide vane effect and virtually unrestricted air flow. Galvanized roof over damper shaft and bearing supports provides rainshed when fan is not operating. Easily mounted on any type roof, Sky-Blast provides air deliveries up to 78,800 CFM. Low silhouette cuts down roof stresses. Our engineers will be glad to give you free advice on any ventilating problem.

Write for Catalog 680-N

PROPELLAIR®
DIVISION OF ROBBINS & MYERS • INC.
SPRINGFIELD • OHIO

Man Cooler Direct Drive Tubeaxial Vaneaxial Extended Shaft

▲ For more details circle NED-265 E4 on enclosed inquiry slip ▲

SAVE TIME • STEPS • MATERIALS with the ONE HAND TACKER

HANSEN

• FASTER
• BETTER } Tacking
at
• LESS COST

ENGINEERED FOR SERVICE

FASTER! With its zip-zip compound leverage action, Hansen saves time in all types of tacking and fastening. Fast, easy one-hand operation. Tacks fast as you grip. Leaves one hand free.

BETTER! Balanced design insures accurate, precision driving. Powerful action drives each staple firmly and neatly in place for improved quality and increased holding power. It is adaptable to a wide variety of uses — screens, insulation, TV wires, etc.

AT LESS COST! Hansen saves *time, steps, and materials* — operates faster — saves back-tracking — ready for instant, continual use.

USE HANSEN VEST-KIT FOR A READY SUPPLY OF STAPLES — as near as the vest pocket. No back-tracking. No delays. Insist on Hansen Staples in the BLUE BOX. Staples in 80 sizes.

A. L. HANSEN MFG. CO. Request Booklet ...TODAY

5065 RAVENSWOOD AVE.—CHICAGO 40, ILL.

For more details circle NED-266 E4 on enclosed inquiry slip

GEAR PROBLEMS? *Check with-*

FAIRFIELD!

If you use gears in the product you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD—the place where fine gears are produced to meet your specifications EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of high precision, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks, and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. Ask for latest literature describing Fairfield's facilities. Your inquiry will receive prompt attention.

FAIRFIELD
Manufacturing Co.
2335 S. Concord Road
LAFAYETTE, INDIANA

For more details circle NED-267 E4 on enclosed inquiry slip

Got a Minute? Got a Penny?

That's all you need to
CUT A KEYWAY
with a du MONT *Minute Man*® BROACH

— any keyway from 1/16" to 1" in any bore from 1/4" to 3" — by hand with arbor press, when you're equipped with Minute Man Keyway Broach Kits.

To Cut Keyway Cutting Cost, Cut This Coupon

The du MONT CORPORATION, Greenfield, Mass.
MAIL KEYWAY BROACH CATALOG & PRICE LIST D—to
Name .....
Company .....
Address .....

For more details circle NED-268 E4 on enclosed inquiry slip

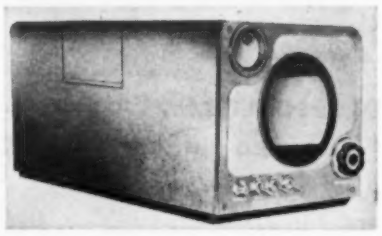
COLLET CHUCK
for tool and work holding usage in 1/16-1 3/8-in. range

Rubber-Flex collets can be used for tool and work holding applications on wide variety of machine tools when combined with model 96 collet chuck. Models have either taper back or flange mounts, but are otherwise identical. Initial engagement of part to be held is by hand rotation of a sleeve, and final locking is through geared key.

Chuck will hold bright finished metal bars or resilient and compressible materials such as rubber, plastic, wood and thin walled tubing. Various cutting tools, proving bars and indicators can also be held. Chuck will hold any diameter round bar between 1/16 and 1 3/8 in. by using choice of 11 Hycar oil-resistant Rubber-Flex collets, each of which has range of 1/8-in., except smallest, which has range of 1/16-in. Made by **Jacobs Mfg. Co.**, 75 Jacobs Rd., West Hartford 10, Conn.

For more details circle NED-269 E4 on enclosed inquiry slip

CAMERA-PROJECTOR
photographs, develops and projects picture continuously, automatically



This self-contained, portable recording device called the Rapromatic 3000 is comprised of a camera, processor and projector and will photograph, develop and project a picture continuously and automatically. Unit measures only 14 x 14 x 22 in. and holds up to 200 ft of 35 millimeter film. Exposed frames are immediately developed and projected on viewing screen. Time lag is as little as 2 seconds. Any single image can be held on screen indefinitely. Thus, in study of transient voltages on cathode ray tube or high speed motion studies, detailed measurements can be made at any instant.

Instrument accepts variety of film emulsions, including those sensitive to ultra-violet or infra-red spectra. It will also act as an optical amplifier by simply increasing screen brightness, permitting investigator an immediate view and control of phenomena ordinarily invisible or difficult to see. Made by **Kenyon Instrument Co.**, 1340 New York Ave., Huntington Station, L. I., N. Y.

For more details circle NED-270 E4 on enclosed inquiry slip

New THERMALINK
Automatic Electric
OIL PRE-HEATING UNITS

★ Integral adjustable thermostat eliminates wiring problems.
★ Adjustable temperature dial marked in degrees.
★ Available with both thermostat and motor control built into unit.
★ No relays or auxiliary controls needed.
★ Available with pipe-thread or flange header.
★ Wattages from 1000 through 7500.
★ Conservative watt-densities prolong life, minimize carbonization.

WRITE DEPT. N FOR DATA SHEETS PRS-152 & FRS-152

ELECTRO-THERM INC. • SILVER SPRING, MD.

For more details circle NED-271 E4 on enclosed inquiry slip

in just 3 seconds

. . . you can read any surface temperature in your plant . . . accurately and easily . . . with the Alnor Portable Pyrocon.

Compact in size, complete in precision design and workmanship, this rugged instrument assures the highest standards of speed, accuracy and dependability. You can take temperature readings on materials in process, the finished product or the heated equipment itself—in as few as 3 seconds!

Alnor Portable Pyrocons come in scale ranges to 2000° F., with thermocouples for every application. You'll find full details on the Pyrocon exactly suited to your operations in Bulletin 4257. Send for your copy now. Write: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-272 E4 on enclosed inquiry slip

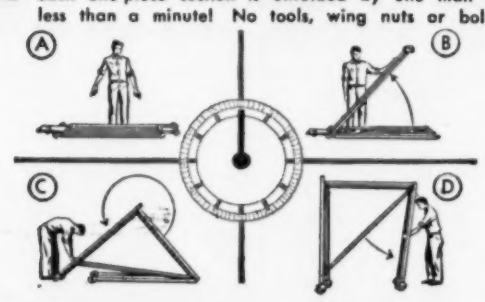
Presto . . . it's UP!

25 ft.
"UP-RIGHT" SCAFFOLD-ON-WHEELS
Set up in only 5 minutes!

As if by magic, an aluminum alloy tower of any height desired is ready in minutes! Individual scaffold sections are set one on top of the other. Sections lock into place instantly. The tower rolls down aisles . . . straddles machinery.

HERE'S THE SECRET!...
Patented
ONE-PIECE SECTIONS

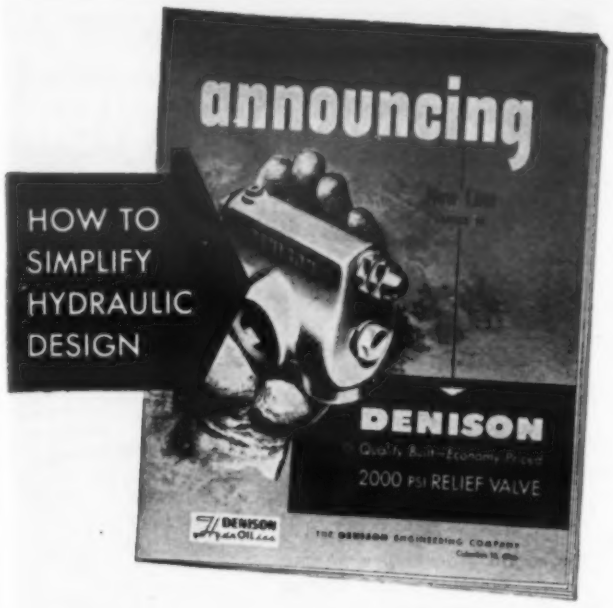
Each one-piece section is unfolded by one man in less than a minute! No tools, wing nuts or bolts.



WRITE FOR DESCRIPTIVE BULLETIN

"UP-RIGHT" SCAFFOLDS
DEPARTMENT 141 • 1013 PARDEE STREET • BERKELEY, CALIFORNIA
Factories: Berkeley, Calif. and Teterboro, N. J.
Offices in all principal cities

For more details circle NED-273 E4 on enclosed inquiry slip



Just out. Free Bulletin No. 152 gives operating characteristics, capacities, sizes and dimensions for new line of low-priced Denison Series M Relief Valves for pressures to 2000 psi. Write for it today.

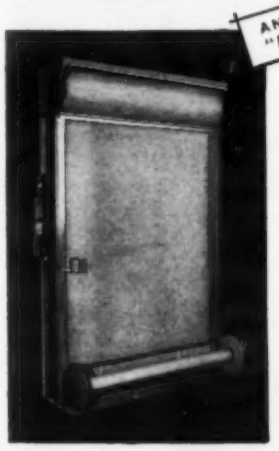
THE DENISON ENGINEERING CO.
1151 DUBLIN ROAD • COLUMBUS 16, OHIO

LEADING DESIGNER AND MANUFACTURER OF HYDRAULIC PRESSES AND COMPONENTS

▲ For more details circle NED-274 E4 on enclosed inquiry slip ▲

THE NEW **Roll-O-MATIC**

ANOTHER AIR FILTER "FIRST" FROM AAF



A "dry" type viscous air filter which maintains its efficiency by automatically introducing clean AMER-*glas* filtering media from continuous roll mounted at top and re-rolling the dust laden media on spindle at bottom. Movement of filter curtain is regulated by pressure differential switch.

Under normal operating conditions, one roll of low cost AMER-*glas* is sufficient for one year's operation for 10,000 cfm of capacity. For complete information on the new ROLL-O-MATIC, call your local AAF representative or write direct for Bulletin 248.

American Air Filter
COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

▲ For more details circle NED-275 E4 on enclosed inquiry slip ▲

CUT COST with FLEXAUST*

The high-quality flexible spiral-wire reinforced hose — SIZES 1¼ in. to 36 in. ID

MOVE Air, Dust, Gases, Materials BY Pressure, Suction, Gravity

Check these *Basic Economies*:

- ✓ **INSTALLED IN A HURRY**—Even by unskilled labor. Easy-to-connect accessories. Completely air-tight. No costly layout preliminaries.
- ✓ **STRONG, LONG LASTING** – Bonded, double-ply. Stands up through abrasion, aging, corrosion, moisture, chemicals, unlimited flexing.
- ✓ **MULTI-PURPOSE** – Protects products and health from dust and fumes, improves comfort, makes many jobs simpler, more efficient.
- ✓ **EASY TO MOVE** – Light, fully portable, completely flexible with negligible stress for moving collector heads.

For sizes, coatings, accessories, and flow characteristics...write for catalog today.

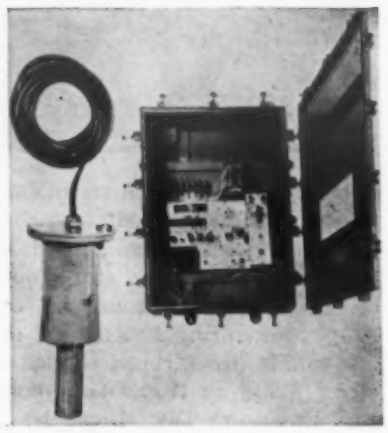
Your local distributor has Flexaust – as well as the companion ducting, *Portovent*.

THE FLEXAUST COMPANY
Dept. NE 5, 100 Park Avenue, New York 17, New York
Formerly American Ventilating Hose Co.

FLEXAUST* PORTOVENT* BLOFLEX*
*Trade-marks

▲ For more details circle NED-276 E4 on enclosed inquiry slip ▲

MATERIALS LEVEL INDICATOR
radio signal indicates level



Adaptable to all bulk materials handling problems, Robintronic level indicator uses radio signal to indicate and control level of stored materials in bins, tanks, hoppers and other containers. Small transmitter housed in steel probe is placed at the level at which material level is to be controlled. When material rises and envelopes the probe or drops and exposes it, change in surrounding density distorts the signal being broadcast to the remote control unit and initiates remedial measures. Unit is factory adjusted and set, and is designed to withstand extreme temperatures, corrosion and other adverse operating conditions. Only wear parts are easily replaced radio-type tubes. Made by **Hewitt-Robins Inc.**, Dept. P, 666 Glenbrook Rd., Stamford, Conn.

▲ For more details circle NED-277 E4 on enclosed inquiry slip ▲

LINE MARKER
paints 5 miles of line per hour

From 2 to 5 miles of 2 to 6-in. traffic line can be painted on parking areas, driveways, plant floors and other rough surfaces by Econo-Liner model 8088

marker. Unit is powered by a 3-hp gasoline engine and has a two-wheel trailer on which the operator rides. It has a 10-gal explosionproof paint tank with quick-locking cover, adjustable pressure control safety valve on the air receiver, and air actuated spray guns for sharp delineation. Guns and lines can be cleaned and flushed without removal. Double or skip lines can be painted using available accessories, which also include bead hopper and dispenser, agitators and cleaners. Made by **Universal Mfg. & Sales Co.**, 5211 Pacific Blvd., Huntington Park 3, Calif.

▲ For more details circle NED-278 E4 on enclosed inquiry slip ▲

Steel SHOP and TOTE Boxes

*In quantity lots. Write for prices for quantity you need. Prices F.O.B. Michigan City, Indiana.

17½" long x 8" wide x 13" deep
(Inside Dimensions)

Why pay for 4 to 6 boxes and only get one? Thousands of manufacturers have used these boxes for years at great annual savings. You too can cut costs! Just tell us how many you need. We'll give you the lowest prices, fill your needs completely at savings up to 75%.

BARNES and SMITH CORPORATION
6521-C W. State Street • Milwaukee 13, Wis.

A 7611-1/9-R

▲ For more details circle NED-279 E4 on enclosed inquiry slip ▲

1 man handles Sheet Steel Faster, Easier with a C-F LIFTER

C-F Lifters, under one man operation, pick up, carry and unload more sheet steel tonnage per hour than any other method – and at lower cost per ton. Wide carrying angles hold sheets securely – won't damage high grade sheets; tong action insures safe carrying; fast opening and closing adjustments of Lifter jaws permit shifting from one size pack to another in seconds. C-F Lifters are made in standard or semi-special models to handle from 2 to 60 tons.

Write for Bulletin SL-28 for specific examples of C-F Lifter operation and economy.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

▲ For more details circle NED-280 E4 on enclosed inquiry slip ▲

Meet the BIG 4
Norton
REINFORCED WHEELS
with the value-adding
"TOUCH of GOLD"

Here's the Line-Up

BD Rigid hub-type, resinoid bonded. Glass cloth reinforcement for high strength plus the Nylon layer add up to extra hub-wheel safety. For the more severe jobs on your right angle grinders.

BFR Semi-flexible hub-type, resinoid bonded. Cotton fabric reinforcement with the additional layer of Nylon. For better finish and contour blending.

BF Semi-flexible straight wheel, resinoid bonded. Cotton fabric construction similar to the BFR but without Nylon reinforcement. For periphery grinding only. An excellent deburring and finishing wheel. Also available in mounted wheels and points and in hand sticks.

BN Straight wheel, resinoid bonded. Glass cloth reinforcement, as in the BD. Provides very high resistance to breakage in a wide range of cutting-off and other jobs.

Ask your Norton Distributor to demonstrate Norton Reinforced Wheels in your shop. Or write to NORTON COMPANY, Worcester 6, Mass. for the Brand New Catalog on Reinforced Wheels. Distributors in all principal cities, listed under "Grinding Wheels" in your classified phone directory. *Export:* Norton Behr-Manning Overseas Inc., Worcester 6, Mass.

NORTON ABRASIVES

Making better products . . . to make other products better

▲ For more details circle NED-281 E4 on enclosed inquiry slip ▲

BERGER SPECIALIZES
in large-volume sheet steel assemblies

Berger offers you production facilities geared to large volume runs of sheet steel products. Berger's specialized service is complete, from engineering through fabrication, finishing, packing and shipping. In addition, Berger offers you the use of a large stock of standard tools, dies and equipment without the need for heavy tooling investment. As soon as you have a sketch or blueprint, send them along to us with complete specifications. We'll tell you promptly what Berger's specialized service can do for you. For additional information on Berger production facilities write for Bulletins 793 and 908.

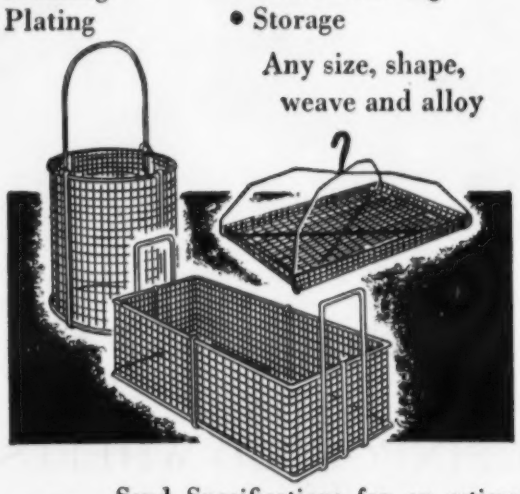
BERGER MANUFACTURING DIVISION
REPUBLIC STEEL
1084 Belden Ave., Canton 5, Ohio • Export Dept.: Chrysler Bldg., New York 17, N. Y.

▲ For more details circle NED-282 E4 on enclosed inquiry slip ▲

BASKETS
for all industrial uses

- Dipping
- De-greasing
- Pickling
- Plating
- Anodizing
- Heat-Treating
- Bulk Handling
- Storage

Any size, shape, weave and alloy



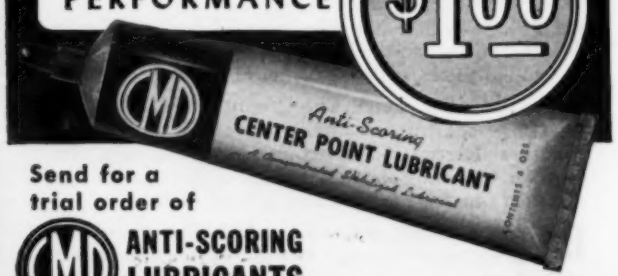
Send Specifications for an estimate. Department 11

THE C. O. JELLIFF
MANUFACTURING CORP. SOUTHPORT, CONN.

▲ For more details circle NED-283 E4 on enclosed inquiry slip ▲

HOW TO INSURE TOP METALWORKING PERFORMANCE

for only $1.00



Send for a trial order of

CMD ANTI-SCORING LUBRICANTS

For top performance on lathe centers, grinding, press fit, stamping, die posts and many other operations—CMD ANTI-SCORING Lubricant can't be beat. It makes your operations smoother, faster, easier and of course more profitable. Prevents scoring, seizing, galling... all bugaboos in modern machining work. This trial order will start *you* on *your* way to top performance where a high pressure lubricant is needed. You will be surprised to find how long it lasts. Get yours today in both oil and grease consistencies.

TRIAL ORDER—TWO FOUR OZ. TUBES $1.00

Send me my order of CMD Lubricants right away! { Bill me / Bill my company }

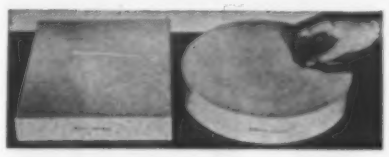
Name _____
Company Name _____
Address _____
City _____ State _____

Chicago Manufacturing and Distributing Company
1902 West 46th St., Chicago 9, Illinois

CHICAGO MANUFACTURING & DISTRIBUTING CO.

▲ For more details circle NED-284 E4 on enclosed inquiry slip ▲

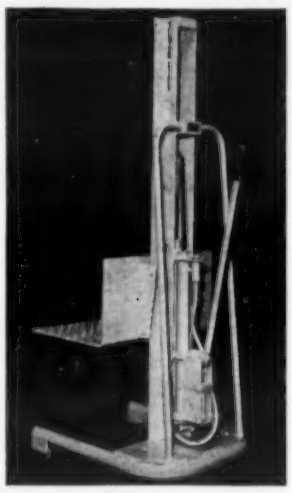
LAPPING & POLISHING STONE
parts lapped to 2 microinch finish



Parts can be lapped on these fixed abrasive lapping and polishing stones immediately after surface grinding or fine machine finishing and will attain 2-microinch finish quickly. Hardened steels as well as soft metals, alloys and carbons can be lapped. Stock removed will not load stone, but wipes away with an oil wetted cloth. Stones are offered in rectangular shapes measuring 10 x 12 x 2 in. and 12 x 14 x 2 in. and in 2-in. thick round shapes of 12 and 16-in. diameter. Made by **Highwood Glass & Paint Co.**, Abrasive Engineers Div., Dept. N, 245 Waukegan Ave., Highwood, Ill.

▲ For more details circle NED-285 E4 on enclosed inquiry slip ▲

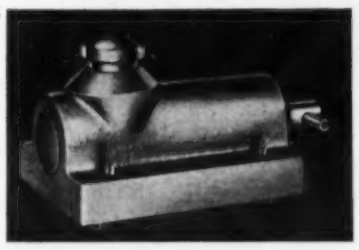
LIFT TRUCK
powered by hand pump



Loads weighing up to 500 lb can be raised to a height of 57 in. from the floor on the 16 x 24-in. platform of the Tubarlift Jr. hydraulic lift truck. Platform is actuated by a double-acting hydraulic hand pump. Lowered platform height is 5¼ in. and overall height is 69 in. Other models with capacities to 2000 lb are available. Made by **Uhrden, Inc.**, 508 Grant St., Dennison, O.

▲ For more details circle NED-286 E4 on enclosed inquiry slip ▲

PLUNGER JACK
supports work, maintains pressure



Ability to support forgings, castings and other parts during machining operations and yet maintain clamping pressure regardless of vibration is a feature of the Sesco plunger jack. Locking action eliminates the possibility of the support button slipping downward until it is released intentionally. Model 7-50 jack has ⅛-in. button travel and 4 13/16 in. overall length, while model 7-55 has 3/16-in. travel and 7½ in. length. Both are available with or without the body casting. Made by **Special Engineering Service, Inc.**, Dept. NED, 8161 Livernois Ave., Detroit 4, Mich.

▲ For more details circle NED-287 E4 on enclosed inquiry slip ▲

U.S. Royal Cords and Cables

Safety Tested!

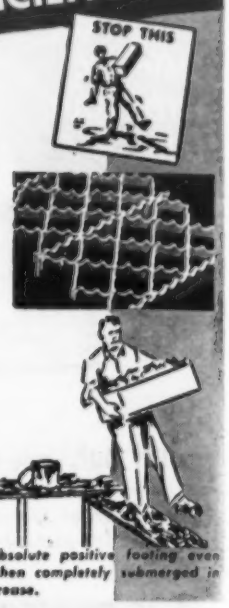
Flexibility • Dielectric Strength
Smooth finish • Physical toughness

UNITED STATES RUBBER COMPANY
Electrical Wire and Cable Department
Rockefeller Center, New York 20, N. Y.

▲ For more details circle NED-288 E4 on enclosed inquiry slip ▲

Compare This Positive Footing Multi-Feature "Safety Grating"

CUTS DOWN ACCIDENTS
ELIMINATES DANGER SPOTS
IMPROVES EFFICIENCY



Bustin
FIRM-GRIP
SAFETY GRATING

Help Yourself in your effort to eliminate skidding accidents.

Try BUSTIN FIRM-GRIP.

This recently developed unique "Safety Grating" has proven to safety engineers of major industrial concerns across the continent its unusual value in eliminating accidents.

*Pat. Pending

Absolute positive footing even when completely submerged in grease.

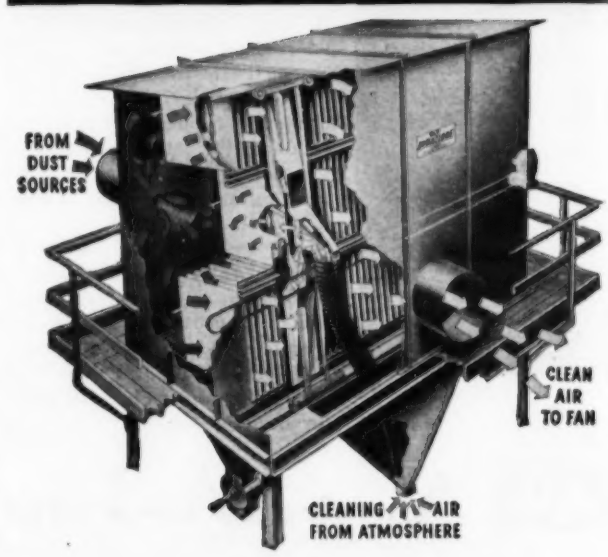
Bustin

Write for Complete Literature
FIRM-GRIP GRATING CORP.
Dover, New Jersey Dover 6-8800

"BUSTIN—Designers and Manufacturers of Metal Products Since 1928"

▲ For more details circle NED-289 E4 on enclosed inquiry slip ▲

THE DYNACLONE®
PATENTED
The ULTIMATE in Dust Filters



1. CONSTANT SUCTION AT DUST SOURCES
2. SELF CLEANING FOR CONTINUOUS OPERATION
3. NO AUXILIARY MOTORS OR BLOWERS (THE MAIN OPERATING FAN DOES THE CLEANING)
4. NO ABRASION OF BAGS BY THE CLEANER

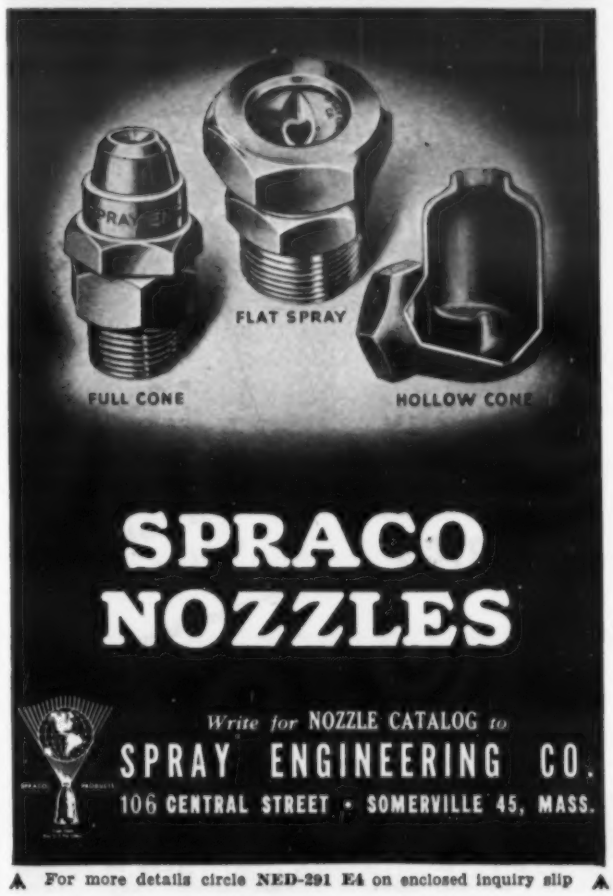
HOW IT OPERATES

(a) Dust laden air is drawn in from the dust sources as indicated by the shaded arrows.
(b) It is diffused into the dust chamber by the baffle plate.
(c) It is then drawn through the fabric of the filter bags and is cleaned as shown by the clear arrows.
(d) Clean air passes out of the case and goes to the suction fan.
(e) Concurrently, the traveler moves back and forth across the dust wall registering successively with one bag at a time.
(f) The suction which exists in the dust chamber draws a blast of atmospheric air through the bag in reverse directions and cleans that bag. (No shaking.)

SEND FOR BULLETIN NO. 102

THE W. W. SLY MANUFACTURING CO.
4748 TRAIN AVENUE • CLEVELAND 2, OHIO
New York • Chicago • Philadelphia • Syracuse • Detroit • Buffalo
Cincinnati • St. Louis • Minneapolis • Birmingham • Los Angeles • Toronto

▲ For more details circle NED-290 E4 on enclosed inquiry slip ▲



SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

For more details circle NED-291 E4 on enclosed inquiry slip

DO YOU KNOW THESE FACTS ABOUT PRE-FINISHING?

Know how to keep your finishing process from becoming outdated? Switch to prefinished ENAMELSTRIP. A few facts about this pioneer process will show you it pays to finish the modern, ENAMELSTRIP way:

- Coats and colors metal before fabricating.
- Eliminates costly operations.
- Comes precision-slit to your specifications in a choice of metals.
- Non-anodized organic finish, withstands all Fabricating stresses.
- Finished in one, or two colors (one on each side).

GET ALL THE FACTS ON ENAMELSTRIP in our new *full-color bulletin.* Send for yours today.

THE COATED COIL CORPORATION
507 West 30th Street, New York 1 • LOngacre 5-3161

For more details circle NED-292 E4 on enclosed inquiry slip

What's Your Problem?
Perhaps it can be solved by the

SMITH CAM FOLLOWER

Let us know your maximum load. We will advise proper stud size.

TYPE CTA COMPLETELY INTERCHANGEABLE WITH STANDARD BEARINGS

See the integral flange on the stud? That makes it possible to increase the stud diameter up to 100% in relation to the cam follower. That means extra strength to meet high speed and heavy load carrying requirements.

SEND FOR ILLUSTRATED FOLDER

SMITH BEARING CO.
STATION N, P. O. BOX 1119, TRENTON, N. J.

For more details circle NED-293 E4 on enclosed inquiry slip

UNIVERSAL GRINDING MACHINE can be set up rapidly

Versatile type U-4 12 - in. universal grinding machine is designed to permit simple set-ups and fast precise grinding action for limited production items. Swiveling headstock has dog drive plate on one end for conventional work and 5-in. D-1 cam lock nose on the other for mounting chucks or fixtures. Work speed range of 40 to 400 rpm is infinitely variable by dial settings, and quick changes from and to internal grinding are made possible by hinged bracket internal grinding spindle which is readily lowered into position for use without disturbing set-up. Other features are drilled headstock spindle to accommodate long shafts, double swivel-mounted grinding wheel head and combination wheel and lever-operated footstock. Made by **Norton Co.**, 200 New Bond St., Worcester 6, Mass.

For more details circle NED-294 E4 on enclosed inquiry slip

ADJUSTABLE GLIDES level furniture and equipment

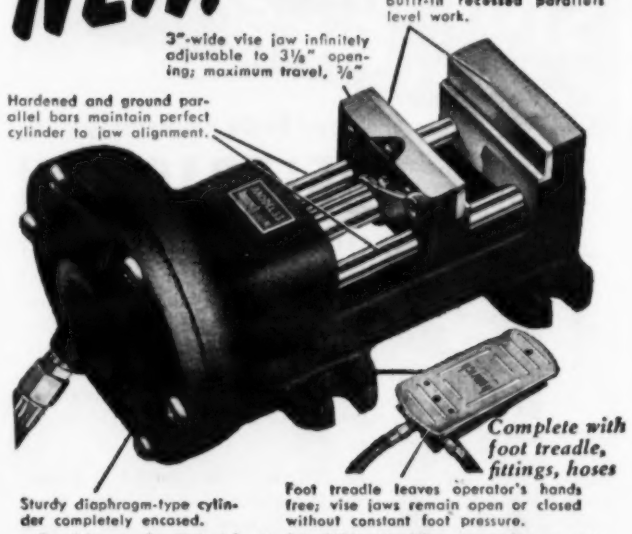
Self-locking adjustable glides are designed to permit fast leveling of furniture and equipment. They have rolled-on spline thread which allows glide stem to be locked against turning, while a nut, captive in the socket, rotates in the threads to extend or retract the glide. Once set, adjustment is retained. Leveling in this way compensates for floor irregularities and also prevents internal strains in equipment. Various designs of both glides and casters are available for wood and metal furniture. Distributed by N. C. Kirst & Co. and made by **Adjustable Caster Co.**, 1411 Walnut St., Philadelphia 2, Pa.

For more details circle NED-295 E4 on enclosed inquiry slip

DO YOU KNOW? Three sizes of permanent-magnet stirring bars are now available with sealed Kel-F casings so that they are usable for mixing highly corrosive acids, alkalies, solvents and peroxides. The chip and crackproof fluorocarbon "skin" is unaffected by temperatures in range of −200 to 200° C. Made by Arthur H. Thomas Co., W. Washington Sq., Philadelphia 5, Pa.

For more details circle NED-296 E4 on enclosed inquiry slip

NEW! heinrich Model "33" AIR VISE FOR HIGH-SPEED PRODUCTION



Precision-made Heinrich Model "33" Air Vise is easier to set with simple, ratchet-operated, triple-lead thread adjusting screw. Grips with 15 times air line or compressor pressure! All operating parts protected from oil, dirt, chips, etc. Saves tooling costs; use it as base structure.

heinrich TOOLS, INC.

NEW CATALOG FREE
Be sure you have a complete Heinrich Tool Catalog in your files. Your copy will be sent free upon request.

DEPT. 304-E • RACINE, WIS.
Drill Press Vises • Fixture Locks • Nibblers
Punches • Rod Cutters

For more details circle NED-297 E4 on enclosed inquiry slip

RELAYS • SOLENOIDS • COILS • TRANSFORMERS • SWITCHES • HERMETIC SEALING

For more details circle NED-298 E4 on enclosed inquiry slip

Navy bomber stinger tail fabricated by Zenith Aircraft—Division of Zenith Plastics Co., Gardena, Calif.

Can your designs duplicate this 80 per cent saving with REINFORCED PLASTICS?

Five of these big reinforced plastic stinger tails for the price of *one* made from conventional materials! The tails carry submarine detection devices for the Lockheed P2V Neptune.

The great savings result from fewer engineering man-hours at the design stage, use of less expensive tooling and manufacturing equipment, greatly simplified fabrication techniques even for complex designs, faster production cycles, and the need for considerably less factory floor space.

And look at the size—17 feet long! Virtually no stringers, frames, bulkheads, or fittings are used. Reinforced plastics, made with glass cloth and BAKELITE Polyester Resins, are so strong that this structure withstood tests up to 300 per cent of its design load.

Your product may gain similar worthwhile design advantages from these properties of reinforced plastics:

- They can be easily fabricated into relatively large sections
- They have a high strength-weight ratio
- They possess both thermal and electrical insulating properties
- They resist corrosion, chemicals, moisture, oil, and grease—are easy to keep clean
- Their economies include low-cost tooling, savings in freight, assembly, and handling, and long service life

Learn more about BAKELITE Polyester Resins for reinforced plastics. Write Dept. XC-53 for free descriptive literature.

BAKELITE TRADE-MARK
POLYESTER RESINS

TRADE MARK
BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N. Y.
In Canada: Bakelite Company
Division of Union Carbide Canada Limited
Belleville, Ontario

For more details circle NED-299 E4 on enclosed inquiry slip

Chicago RIVET "912"
AUTOMATIC RIVET SETTER
CUTS COSTS 3 WAYS

1 FASTENS FASTER . . . Only the speed of the operator limits the 912's riveting speed. Completely automatic. A push on the foot pedal automatically feeds, inserts and clinches the rivet.

2 DOES WORK OF SEVERAL MACHINES Quick change rotary hopper and raceway makes the 912 adjustable in 5 to 10 minutes to set different size rivets. Adjustable anvil height and 12-inch throat provide further versatility.

3 SAVES ON MAINTENANCE . . . The 912 is massively built to stand the shocks of constant use and is designed for quick, easy servicing and parts replacement.

If your assembly calls for 3/16" steel tubular rivets or smaller, of 15/16" lengths or less, ask us to show you how the 912 can cut your fastening costs. Send a sample of your problem assembly (or blueprint) for a free fastening analysis.

FREE CATALOG *contains valuable engineering information and rivet specifications plus illustrated descriptions of 26 Chicago Automatic Rivet Setters.*

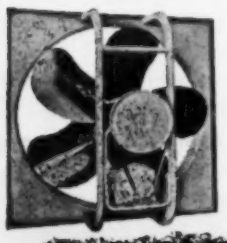
Chicago Rivet & MACHINE CO.
9606 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois
Branch Factory: Tyrone, Pa.

▲ For more details circle NED-300 E4 on enclosed inquiry slip ▲

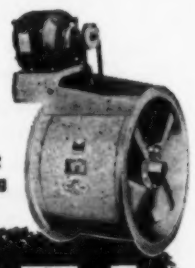
When planning your Ventilating Systems...

Get all the Facts!

Each new job presents different cooling and ventilating problems that we can successfully solve for you . . . Write us for complete data on the hundreds of possibilities offered in the wide range of styles, sizes and capacities of Chelsea Fans—ask for Data Sheets #600 or, for technical assistance, call our engineers.



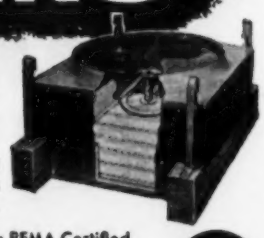
FOR GENERAL VENTILATION Type IND



DUCT BOOSTER Non-Overloading Type PLDX

CHELSEA FANS

ROOF PENT-HOUSE UNIT Type PH



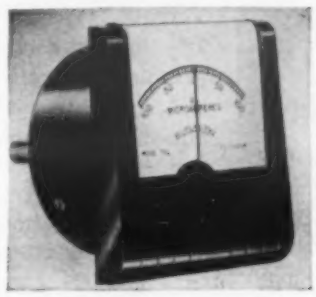
RESIDENTIAL ATTIC FAN Permanent installations for homes of any size.

Every Chelsea fan has a PFMA Certified Rating. Sturdy, all-steel construction for long and dependable service.

CHELSEA FAN & BLOWER CO., INC.
PLAINFIELD • NEW JERSEY
MANUFACTURERS OF INDUSTRIAL & HOME VENTILATING EQUIPMENT

▲ For more details circle NED-301 E4 on enclosed inquiry slip ▲

PANEL INSTRUMENTS have 2½-in. square plastic crystal



Available with direct or alternating current movements, as rectifier type instruments, for VU and DB indicators and voltmeters, type 721 semi-flush instruments have 2½-in. square clear Plexiglas crystal. Radio frequency milliameters utilizing an internal thermocouple are available in the same model. Large square crystal slopes backwards at slight angle for easy vision. Rim and lower third of case can be spray lacquered in any desired color with glossy, flat or dull matte finishes. Made by **Burlington Instrument Co.**, 151 N. Third St., Burlington, Iowa.

▲ For more details circle NED-302 E4 on enclosed inquiry slip ▲

PULLEY LAGGING METHOD uses neoprene sheet, bonding agent

Good wearing and traction characteristics of neoprene corrosion resistant chemical rubber are utilized with Neolag, a neoprene sheet material for lagging pulleys. Method employs neoprene bonding agent which securely cold bonds cured sheet to pulley surface without rivets. Bond becomes integrated with sheet to form homogeneous mass of neoprene over entire pulley surface. Pulleys can be lagged without removing them from the shaft. Developed by **Main Products Corp.**, Dept. 366, 1241 Carpenter St., Philadelphia 47, Pa.

▲ For more details circle NED-303 E4 on enclosed inquiry slip ▲

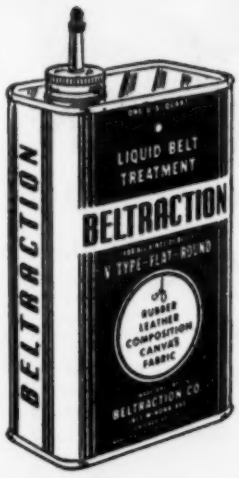
INDUSTRIAL BENCH LEGS support exceptionally heavy loads

An extra ⅛-in. gusset reinforcement supporting ⅛-in. steel channel iron framing gives type N industrial bench legs strength to carry exceptionally heavy loads. Flared feet extend out sufficiently to give legs a solid foundation. Available in three standard widths, legs are constructed of welded steel sections, formed into rigid, one-piece unit which eliminates end sway and need for wall support. Elongated holes are arranged for expansion and shrinkage of attached tops. Top rails are set apart to give wide bearing service. Made by **Industrial Bench & Equipment Mfg. Co.**, 98 South St., New Britain, Conn.

▲ For more details circle NED-304 E4 on enclosed inquiry slip ▲

STOP WASTE CAUSED BY Belt Slippage!

Treat Belts Regularly with
BELTRACTION
LIQUID BELT TREATMENT



When the belts that drive your drills, punch presses, grinders, compressors, lathes and other machinery slip, you waste not only power and fuel but also time. A slipping belt can reduce machine output as much as 70%.

BELTRACTION Liquid Belt Treatment prevents belt slippage and permits increased feeds and speeds and assures greater output per machine. Use BELTRACTION regularly for increased profits. Order some today! Write for descriptive folder.

BELTRACTION COMPANY
1817 W. Winona St. Chicago 40, Ill.

FOR ALL TYPES OF BELTS • V-TYPE, FLAT OR ROUND

▲ For more details circle NED-305 E4 on enclosed inquiry slip ▲

FABRICS & TAPES For ALL INDUSTRY

FLIGHTEX FLIGHTEX FABRIC FABRICS

• COTTON
• VINYON
• RAYON
• NYLON
• GLASS

If you use special industrial fabrics and mechanical tapes, you'll find Flightex a dependable source of supply. Our staff of engineers is at your service to help solve your fabric and tape problems.

Write for Complete Information

FLIGHTEX FABRICS, Inc.
91 Worth Street New York 13, N. Y.

▲ For more details circle NED-306 E4 on enclosed inquiry slip ▲

FREE! New Safety Information 4-out-of-5 Plants Need!

IF YOU BURN oil, gas, powdered coal or other fuel, for power, processing or heating, the chances are 4-out-of-5 that you do not have complete safeguards against burner flame-failure explosions.

Why take chances . . . ? This new booklet gives you all the information you need to prevent flame-failure explosions. With it you can spot burner explosion hazards in your plant — identify obsolete or inadequate "protective" devices — determine your needs for the most modern safeguard equipment. Get your copy, free! Please give your company name and title.

WRITE:

COMBUSTION CONTROL CORPORATION
Dept. CB-5, 718 Beacon Street
Boston 15, Mass.
fireye

▲ For more details circle NED-307 E4 on enclosed inquiry slip ▲

any way you look at it... fast, cool-cutting is in the bag!

A new protective plastic bag for factory-fresh Simonds toolroom wheels every time you order. Ideal for high carbon, high chrome and other toolroom steels. Order from your Simonds distributor.

with SIMONDS ABRASIVE CO. W Borolon GRINDING WHEELS

SIMONDS ABRASIVE COMPANY
Philadelphia 37, Pa.
Div. of Simonds Saw and Steel Co.
DISTRIBUTORS IN PRINCIPAL CITIES
BRANCH WAREHOUSES Boston, Detroit, Chicago, Portland, San Francisco

▲ For more details circle NED-308 E4 on enclosed inquiry slip ▲

FOR ACCURATE TEMPERATURE READINGS AT ALL TIMES...

...SPECIFY *UNITED ELECTRIC* TYPE E8N INDICATING CONTROL

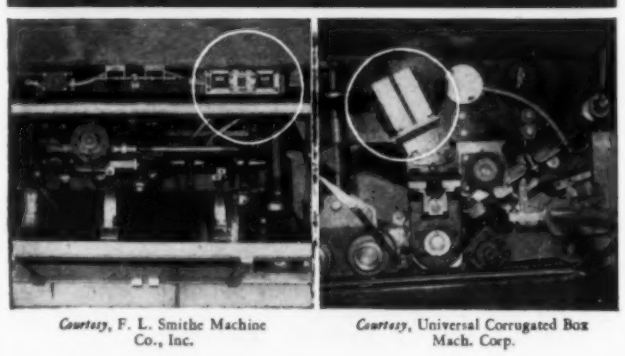
The Type E8N is a wide range, precision-built indicating control that shows the exact temperature of the thermal bulb at all times. It is simple in design, contains no delicate mechanisms and is accurately compensated for wide ambient temperature changes. Various models are available, covering ranges of 300°F to 600°F between limits of -150°F to 600°F, permitting a high degree of sensitivity and repeat accuracy. For complete details and electrical specifications, write for Bulletin #4-1.

UNITED ELECTRIC CONTROLS COMPANY
81 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

▲ For more details circle **NED-309 E4** on enclosed inquiry slip ▲

dependable NAMCO
"STELLITE"-WELD
Solenoids



Courtesy, F. L. Smithe Machine Co., Inc. — *Courtesy*, Universal Corrugated Box Mach. Corp.

do hard-to-get-at jobs like these *Automatically*

Whether you are synchronizing movement of the cutting board and ram on a hydraulic die press for making envelopes, or operating the taping mechanism on a pasteboard box making machine—Namco solenoids designed into the job insure better performance longer.

Solenoids offer you a modern, up-to-date way of doing jobs automatically, by remote control—even in cramped quarters.

Many manufacturers with a cost or space problem have found the solution in these compact reliable solenoids. They're using them in the place of expensive and bulky gear trains, levers, linkages and other mechanism. They're getting better products (usually at lower costs) by using *Namco* Solenoids to

OPERATE VALVES	MOVE LEVERS
ACTUATE CLUTCHES	PRINT SYMBOLS
OPERATE SWITCHES	OPERATE SAFETY DEVICES
CONTROL MACHINES	EJECT WORK IN PROCESS

Namco "Stellite"-weld Solenoids are built in sizes with ratings from 2½ to 25 pounds, push or pull, at maximum 1" stroke. We'll be glad to recommend the size and style best suited to your job—ask our engineers to talk it over with yours.

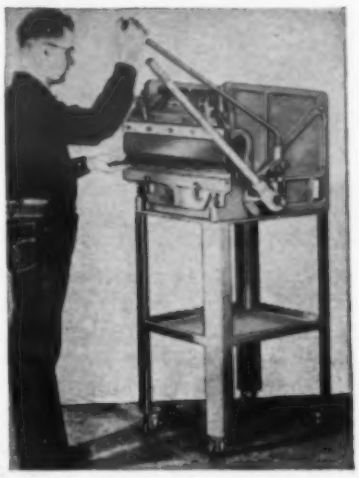
Engineering BULLETIN EM-52 gives details on standard Namco Solenoids.

ELECTRICAL MANUFACTURING DIVISION
The NATIONAL ACME COMPANY
170 EAST 131st STREET • CLEVELAND 8, OHIO

ACME-GRIDLEY BAR and CHUCKING AUTOMATICS
1-4-6 and 8 Spindle • Hydraulic Thread Rolling Machines • Automatic Threading Dies and Taps • Limit, Motor Starter and Control Station Switches • Solenoids • Contract Manufacturing

▲ For more details circle **NED-310 E4** on enclosed inquiry slip ▲

HAND PRESS BRAKE
24-in. unit rated 8-ton capacity

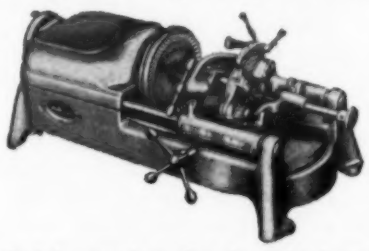


Hand operated Di-Acro press brake has 24-in. wide bed and is rated at 8 tons capacity. Cam lever mechanism provides power for forming, blanking, piercing, drawing and trimming operations and ratchet drive multiplies power for heavy forming. Brake will form 16-gage mild steel across full bed width and 10-gage mild steel across a 12-in. width. It will also work Inconel, brass, stainless steel and all other ductile materials. Ram stroke is 2 in., throat depth 6 in., width between housings 14 in. and bed adjustment 1½ in. Line of standard and special dies available are interchangeable with other standard press brake tools. Press is quickly set up and can be used for short run production work or in experimental development. Made by **O'Neil-Irwin Mfg. Co.**, 582 Eighth Ave., Lake City, Minn.

▲ For more details circle **NED-311 E4** on enclosed inquiry slip ▲

PIPE & BOLT THREADER
jaws easily operated by handwheel

Jaws of Speed-Grip chuck built into the Ridgid 500A pipe and bolt threading machine are closed on the work with a light impact on the handwheel and the motor power further tightens the grip. Chuck grips in both forward and reverse direction and is released by a turn of the handwheel. All tools can be used separately.



Quick-opening Quadra, dual and mono die heads are available, as are bolt, conduit and special dies. Capacity is ⅛ to 2-in. pipe or conduit and ¼ to 2-in. bolts. No. 500 machine with lathe type wrench chuck is also available. Made by **Ridge Tool Co.**, 125 Ridge Rd., Elyria, O.

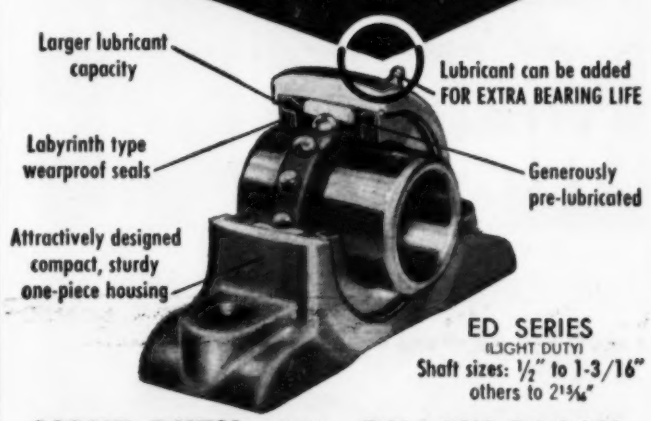
▲ For more details circle **NED-312 E4** on enclosed inquiry slip ▲

Vertical Turret Mills

Rogers Machine Works, Inc.—Various operations such as boring, drilling, turning and threading that can be performed on the Perfect 36 vertical turret mill are shown in 6-page bulletin 653. It features an adjustable five-position main turret, swivel side head for setting any angle up to 35 degrees each side of horizontal and motor driven rapid traverse.

▲ For more details circle **NED-313 E4** on enclosed inquiry slip ▲

An Ahlberg plus feature in
LOW COST BEARINGS



LIGHT DUTY BALL BEARING PILLOW BLOCK

For those jobs where cost is the primary factor, it will pay you to investigate the light duty, low cost ball bearing unit. Let us send you bulletin 7149A.

AHLBERG BEARING CO. 3025 W. 47th Street Chicago 32, Ill.

AHLBERG
PRECISION BUILT BALL BEARINGS SINCE 1908

▲ For more details circle **NED-314 E4** on enclosed inquiry slip ▲

Lightweight Pallet Truck is Easiest To Pull...
... never needs greasing

Here's the best hydraulic pallet truck buy in years! New Lewis-Shepard Model HPL weighs only ½ as much as standard trucks . . . handles loads up to 2000 lbs. . . . costs you less to buy . . . and it's the easiest pulling truck made!

Factory-sealed ball bearings in the HPL eliminate periodic greasing . . . virtually eliminate all maintenance . . . insure longer truck life!

Get all the facts on this new, low cost, lightweight truck. Write for Circular 26A . . . TODAY!

The Most Complete Line of Materials Handling Trucks

LEWIS-SHEPARD
732-5 WALNUT ST., WATERTOWN 72, MASS.
The "MASTER" Line

▲ For more details circle **NED-315 E4** on enclosed inquiry slip ▲

The "BLUE CHIPS" are Careful about Metal Chips like these

BLUE CHIP COMPANIES in the food industry take every precaution to protect product purity and their good names. They're the biggest users of Allis-Chalmers Electronic Metal Detectors. That extra effort to provide product purity is just one more reason they're on top. Can you afford to be less careful? Electronic Metal Detectors are the only sure way of detecting the presence of non-magnetic as well as magnetic particles in food packages. Spots particles as small as .047 inch in diameter. Unit fits production set-ups.

Call your nearby Allis-Chalmers district office for complete information, or write Allis-Chalmers, Milwaukee 1, Wis.

A-3712

ALLIS-CHALMERS

▲ For more details circle **NED-316 E4** on enclosed inquiry slip ▲

For faster, lower cost assembly...

You'll get big savings on assembly operations with Stackbin Assembly Bins. Work station layouts are more efficient. Parts are kept close to worker's hands . . . reaching and fumbling is eliminated. Shallow angle lip is just right for finger tip control. Operators can select with both hands. Sloping bottom feeds parts continually toward the front. With adjustable hoppers, there are always plenty of parts when and where they're needed.

Stacking feature permits rigid setups, allows flexibility when layout is changed.

Stackbin Assembly Bins feature all-welded construction with smooth, folded edges. 6 sizes with straight or tapered sides. Also available with rear-loading feature.

WRITE TODAY for full information on the Stackbin System of economical materials handling and storage.

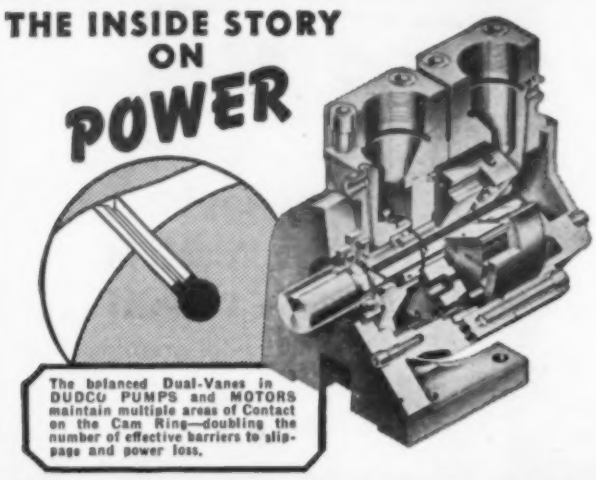
Stackbin Corporation, 1081 Main Street, Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickwire-Stackbin, Ltd., Ottawa

STACKBIN SYSTEM
"Stacked and Still Accessible"

▲ For more details circle **NED-317 E4** on enclosed inquiry slip ▲

THE INSIDE STORY ON POWER



Bulletin No. DP-300 Gives You the FACTS on DUDCO DUAL-VANE HYDRAULIC PUMPS

DUDCO Vane Type PUMPS feature the exclusive Dual-Vane principle because it is the key to complete hydraulic balance and the elimination of excessive slippage and power loss. With single models of 3 to 60 gpm and double models with capacities from 24 to 120 gpm, DUDCO Pumps afford design engineers the advantages of equipment providing continuous pressures to 2000 psi.

WRITE for BULLETIN DP-300 . . . profusely illustrated . . . tells the entire story.

DUDCO DIVISION
THE NEW YORK AIR BRAKE COMPANY
1708 EAST NINE MILE ROAD • HAZEL PARK • MICH.

For more details circle NED-318 E4 on enclosed inquiry slip

CAMCAR COLD-FLOW

WATCHES THE WASTELINE

Camcar Cold-Flow reduces metal *waste* to only 3% in the production of this part . . . a 75% savings over the old method. Cold-Flow keeps the waste in line . . . saves material . . . *forms* parts by metal flow . . . in contrast to older methods that *cut* parts from large diameter stock.

Cold-Flow works on a strict diet — in high and low carbon steels, copper, brass, aluminum, stainless and many others — creates intricate shapes to meet exacting assemblies . . . and in high volume.

The Cold-Flow principle of high speed metal flow increases part strength, lengthens life . . . for the metal grain smoothly follows the part contour. And Cold-Flow compresses outer fibres to achieve greater surface hardness . . . more wear resistance.

Send us requirements, specs and samples. Or ask for a field specialist.

CAMCAR SCREW & MFG. CORP.
ROCKFORD, ILLINOIS
Telephone: 5-9451 • Teletype: RK-8653

CAMCAR COLD-FLOW

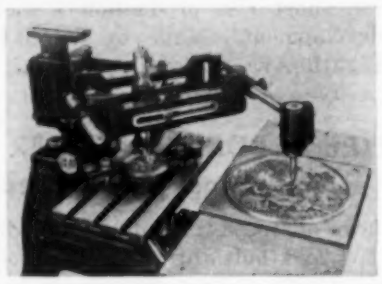
For more details circle NED-319 E4 on enclosed inquiry slip

MOTOR-BLOWER ASSEMBLY
miniature unit delivers 24 cfm

Miniature motor-blower assembly designed to occupy a space no larger than 2¼ x 2¼ x 4 in. will supply 24 cfm free air delivery under continuous duty. Blower or suction operation is afforded by unit's two-blade propeller-type fan, powered by a permanent magnet motor rated at 6 to 115 v dc. Speed is 10,000 to 13,000 rpm, with 0.5-amp current consumption. Housing is cast aluminum, and unit can be equipped with a radio noise filter. Blower is available to meet varying industrial and military requirements. Made by **Pioneer Electric & Research Corp.,** Dept. NED, 743 Circle Ave., Forest Park, Ill.

For more details circle NED-320 E4 on enclosed inquiry slip

ENGRAVING MACHINE
for metal, plastic and wood ratios range from 1.7:1 to 7:1



Steel and other metal, plastics, wood and similar materials can be engraved in ratios ranging from 1.7:1 to 7:1 by the Panto model 3D-5 engraver. By alternating spindle and tracing stylus, engraving enlargements in reverse of these ratios are available. Precision engraving within limits of 4½-in. diameter circle at 2:1 ratio and within 1⅜-in. circle at 7:1 ratio is accomplished at speeds of 5000, 7000, 9000 or 12,000 rpm, as desired.

Engraver is particularly suited for work ranging from steel stamp and die lettering of sizes up to ⅛-in. and larger. Size of work is limited only by work area at required ratio. Unit is furnished with 1725-rpm, 115-v 60 cycle ball bearing motor and such attachments as work table, clamps, copy holder, spindle, collet, belts, pulley, cutters, grease gun, wrenches and operating instructions. Made by **H. P. Preis Engraving Machine Co.,** 203 Industrial Branch, Hillside, N. J.

For more details circle NED-321 E4 on enclosed inquiry slip

DO YOU KNOW? Estate steel curbing for driveways, roadways, parking areas and lawns is again available after being off the market for some time. This ¼ x 5-in. steel curbing is supplied in 16-ft lengths with seven 18-in. tapered stakes for each section. Readily contoured and having simple connecting joints, curbing can accommodate all ground contours. Available from Joseph T. Ryerson & Son, Inc., P. O. Box 8000-A, Chicago 80, Ill.

For more details circle NED-322 E4 on enclosed inquiry slip

Chicago MOUNTED Wheels

...now even better with 79E BOND

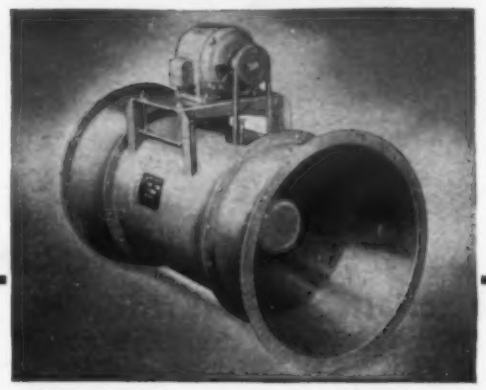
Buy Chicago Mounted Wheels—bonded with 79E Bond—and you'll never use any other!

79E—a tough new bond exclusive with Chicago Wheel—is the sensation of the industry . . . it does a BETTER grinding, burring, and finishing job FASTER. A size and shape for every use. Deliveries are excellent—Order today.

CHICAGO WHEEL & *Mfg. Co.*
Dept. NED • 1101 West Monroe Street, Chicago 7

For more details circle NED-323 E4 on enclosed inquiry slip

STRAIGHT-LINE AIR ECONOMY with FANS NO BIGGER THAN YOUR DUCT!

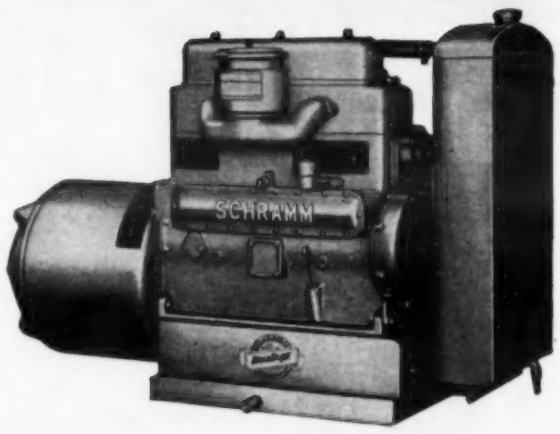


"Buffalo" AXIAL FLOW FANS

In hood and vat exhaust—boosting capacity in a ventilating system— air conditioning service—any light-duty air job—you can install these lightweight fans in straight duct runs cheaply, without taking up additional space, and enjoy extremely high efficiency. "Buffalo" Type "B" Vaneaxial Fans deliver air straight through with absolute minimum waste turbulence. They are sturdy, non-overloading regardless of system resistance, and ready to give you many years of service at rock bottom cost. Write for Bulletin 3533-C.

BUFFALO FORGE COMPANY
215 MORTIMER ST. BUFFALO, NEW YORK
PUBLISHERS OF "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities

For more details circle NED-324 E4 on enclosed inquiry slip



Direct Motor Drive Compressor With Cooling Unit

- NO ELABORATE FOUNDATIONS WHEN INSTALLING THE MODERN SCHRAMM AIR COMPRESSORS.
- VIBRATIONLESS . . . EASY TO MOVE . . . EASY TO INSTALL.
- FURNISHED COMPLETE WITH ALL NECESSARY ACCESSORIES.
- SIZES FROM ½ TO 150 HORSEPOWER; DIRECT CONNECTED, V-BELT DRIVE AND TANK MOUNTED.

Write for Catalog 5110-A

SCHRAMM, INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

For more details circle NED-325 E4 on enclosed inquiry slip

Specify MEYERCORD DECAL Transfers

—for difficult highly-specialized applications

—for long day-after-day production runs—

Meyercord Laboratory and Production Experience —PLUS Unexcelled Service—to Serve You *Better!*

Sometimes we are too prone to tell our friends about the spectacular achievements of Meyercord in solving those "impossible" decal transfer applications . . . like the new E-51 aircraft decals that resist up to 900 degree temperatures of jet engines, as well as the ravages of strong solvents and aircraft fuels. Specialized decal applications are a mighty important part of our business . . . but we're still first and foremost in the business of supplying standard Meyercord nameplate and identification decals. Whether you make typewriters, appliances, electrical conduit . . . any product that is turned out on long-time production runs, be sure to investigate the advantages of Meyercord decal transfer *uniformity, fine quality and absolutely unbeatable service* on your production line.

Send for This Manual of MEYERCORD DECAL NAMEPLATES

Shows hundreds of uses for durable, washable decal nameplates . . . as trademarks, instruction charts or diagrams—in any size, colors, or design. This manual is FREE . . . request it on your business letterhead, please.

THE MEYERCORD CO.
World's Largest Decalcomania Manufacturers
DEPT. T-316
5323 WEST LAKE ST.
CHICAGO 44, ILLINOIS

For more details circle NED-326 E4 on enclosed inquiry slip

Reduce your tool cost, improve accuracy, increase production with Continental standard drive interchangeable cutting tools. Cutters have a balanced, indestructible drive that will not stick, break, and is hand detachable.

Call your Ex-Cell-O representative or write us.

54-8

CONTINENTAL TOOL WORKS
Division of Ex-Cell-O Corporation
DETROIT 32, MICHIGAN

▲ For more details circle NED-327 E4 on enclosed inquiry slip ▲

PURE WATER

DISTILLED WATER?

PROBLEMS SOLVED WITH Barnstead EQUIPMENT

DEMINERALIZED WATER?

In hundreds of manufacturing processes, where complete purity is needed, Barnstead Stills provide the highest-quality, lowest-cost, chemically pure, sterile water from ½ to 1000 gallons per hour. With over 100 different models to choose from, Barnstead can provide the exact still to fit your particular needs. For Barnstead Laboratory and Industrial stills are the proven standard of the scientific and industrial world.

Where modern manufacturing processes require only high-test mineral-free water, Barnstead Demineralizers are the best producers . . . 5c per 1000 gallons with a minimum of supervision and maintenance. Many new industries are turning to Barnstead Demineralized Water for greater production, fewer rejects and better quality control.

WRITE

Catalog #123 gives both sides of the Pure Water Picture. Since Barnstead makes both stills and demineralizers, you'll find this catalog complete, authoritative, unbiased. Write Today!

Barnstead STILL & STERILIZER CO.

First in Pure Water since 1878

16 Lanesville Terrace, Forest Hills, Boston 31, Mass.

▲ For more details circle NED-328 E4 on enclosed inquiry slip ▲

LOOK WHAT YOU CAN PACK WITH THE AUTO-PAK

Illustrated here are just a few of the many products you can package with the popular, low cost, efficient Auto-Pak. . .the machine that will deliver *your* product in sealed, attractive packages—as many as one every second.

It won't cost you anything to find out what the Auto-Pak can do for you. Write, wire or call today.

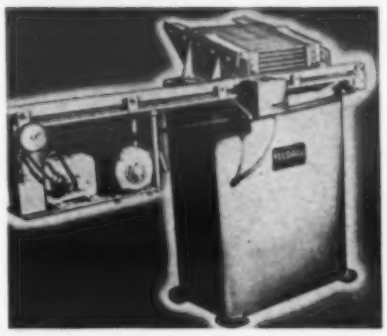
PAK-RAPID INC.

530 N. 21st Street, Philadelphia 30, Pa. LOcust 7-4840

Representatives
New York • Boston • Cleveland • Cincinnati • St. Louis
Los Angeles

▲ For more details circle NED-329 E4 on enclosed inquiry slip ▲

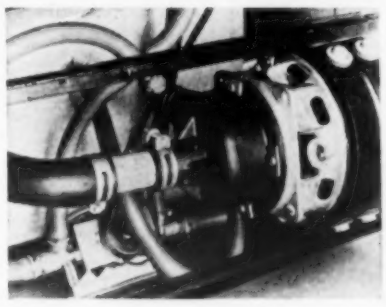
CYLINDRICAL WORK LOADER for grinding and polishing machines



Long cylindrical work can be automatically fed to centerless grinders, special polishing or inspection machines by the model 1700 magazine loader. Magazine is loaded with parts which are to be automatically delivered to a built-in conveyor. Parts are cycled by a photoelectric relay mounted on the conveyor attached to the machine's front. Feeding rate is controlled by a variable speed drive on the conveyor. Entire unit is self-contained. Model illustrated has a work range from ⅝ to 1½ in. diameter and 10 to 24 in. length. Models for other diameters and lengths are available. Made by **Feedall Machine & Engineering Co.**, Dept. ND, 38399 Pelton Rd., Willoughby, O.

▲ For more details circle NED-330 E4 on enclosed inquiry slip ▲

CENTRIFUGAL PUMPS handle corrosive liquids

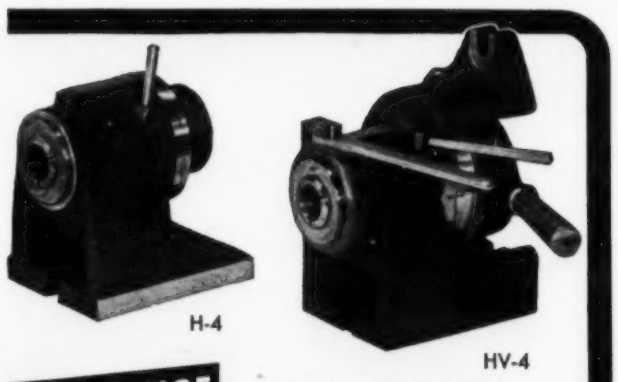


Nonclogging, quiet operating centrifugal pumps in Mansfield Line are made of Hycar American rubber which permits them to handle many corrosive and abrasive liquids and slurries at temperatures up to 200° F. Pump housing and impeller are molded from the B. F. Goodrich Chemical Co. material. The stainless steel impeller shaft is the only other exposed part. Pumps are made in various sizes and capacities up to ½-hp model which pumps 10 gpm at 45-ft head or 30 gpm at 30-ft head. They are available without motor and equipped for belt drive. Operation speed can be up to 4000 rpm. Connection can be with ordinary pipe clamps. Made by **Gorman-Rupp Industries, Inc.**, P. O. Box 355, Mansfield, O.

▲ For more details circle NED-331 E4 on enclosed inquiry slip ▲

DO YOU KNOW? Available on a free loan basis, 16-mm color-sound motion picture "Play It Safe" demonstrates how proper usage can prevent one of industry's most dreaded accidents—the bursting of a damaged grinding wheel operating at high speed. Slow-motion is used to show just what happens when a wheel explodes. This safety film is offered by Peninsular Grinding Wheel Sales Corp., 729 Meldrum, Detroit, Mich.

▲ For more details circle NED-332 E4 on enclosed inquiry slip ▲



HARDINGE ELMIRA, N.Y.

INDEX FIXTURES

The way to increased production is to hold work accurately and provide for rapid indexing. HARDINGE Collet Index Fixtures—H-4 for Tool Room and Inspection Departments; HV-4 for Production Departments—will help increase production on either new or old machines. Planned interchangeability for a variety of applications. Buy these standard fixtures instead of making expensive special fixtures.

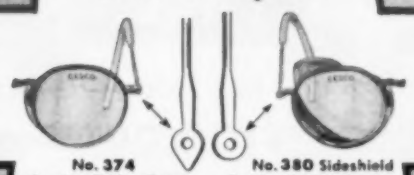
HARDINGE COLLETS
For All Lathes and Automatics
Backed by 60 Years of Manufacturing Experience

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

▲ For more details circle NED-333 E4 on enclosed inquiry slip ▲

CESCO RIGHT... before your Eyes!

NEW Temples

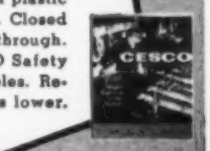


No. 374 Comfort-Bridge Goggle — No. 380 Sideshield Comfort-Bridge Goggle

Now, CESCO Comfort-Bridge Goggles have new symmetrical tip temples which are interchangeable—right or left.

These new temples are better looking and have greater strength at the end-piece joint where breakage usually occurs. That's because the flat bar of the temple is at a right angle to the tip.

Attractive flesh-colored plastic insulators are easy to replace. Closed end keeps shaft from poking through. Workers like to wear CESCO Safety Goggles with these new temples. Repairs are easier, service costs lower. They're *"RIGHT... before your Eyes."*



Send TODAY for CESCO literature

CHICAGO EYE SHIELD COMPANY • 2322 Warren Boulevard, Chicago 12, Illinois

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Dallas, Detroit, East Orange, Houston, Indianapolis, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City D. F., Milwaukee, Montreal, Peoria, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa, Wichita

▲ For more details circle NED-334 E4 on enclosed inquiry slip ▲

Routine delay your product development?

Research roughs out in pencil a contour change on trip cam SB-107. The rough goes to the drafting room for a drawing. The approved drawing is printed, and prints passed around. Eventually somebody in the shop makes the part.

Weeks and months go by before SB-107 is ready to test. And management wonders why it takes years, and so much expense, to bring out a new model!

TODAY in many companies the routine is cut short by making Ozalid prints of the rough sketch—and starting work right away.

An Ozalid® machine copies anything drawn, typed, printed or photographed on translucent paper or cloth—turns out a finished, dry, clear print of the same size, in less than a minute. Prints can be changed, modified, or erased.

The convenience of quick, plentiful prints at low cost saves time, speeds work, cuts costs.

Call the Ozalid office or distributor (in phone book) for a demonstration. Or write for free brochure to 131 Ozaway, Johnson City, New York.

OZALID—A Division of General Aniline & Film Corporation . . . *From Research to Reality.*
In Canada, Hughes Owens Company, Ltd., Montreal.

Ozalid Printmaster *makes copies up to 54 inches wide, at speeds up to 30 feet a minute. Simple to operate. Low maintenance. Prompt service.*

OZALID

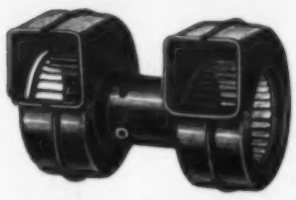
▲ For more details circle NED-335 E4 on enclosed inquiry slip ▲

WE'LL SEND YOU THIS WHOLESALE CATALOG FREE!

Save Money

OVER 9,000 ITEMS INCLUDING

This special CLOSEOUT Buy!



Redmond 200 CFM Double Blower

Made of heavy gauge steel, with 4¾" Torrington carefully balanced airotors delivering 200 Cu. Ft. per Min. Has 115 V, 60 C, 90 Watt, 1450 RPM type L double shaft rubber mounted motor.

53431 Each $7.49 — 6 Lots Each $7.19

Mounting Flanges

Steel 4¾" square flanges for mounting blower.

42764 Each 30c

This Offer Subject to Prior Sale

THE HARRY ALTER CO.
1726 S. MICHIGAN AVE., CHICAGO 16
132 LAFAYETTE ST., NEW YORK 13

For more details circle NED-336 E4 on enclosed inquiry slip

"U. S." VERTICAL Milling Machine

The economical answer to accurate, versatile vertical and angular milling.

Thoroughly tested on the job by many of America's foremost manufacturers.

Created by America's foremost producers of small milling machines, to fill the big need for a balanced-head vertical miller that provides greater capacity and flexibility than is normally associated with machines of its type.

The new U. S. Vertical ideally combines most advanced engineering, experience of practical machinists and modern design without sacrifice of basic characteristic "U. S." simplicity.

COSTS SURPRISINGLY LITTLE

Quickly pays for itself by simplifying or taking over vertical milling and boring jobs which often tie up far more costly standard machines.

SEND FOR COMPLETE DETAILS

Illustrated literature which describes complete specifications, capacities, exclusive features and advantages gladly furnished on request.

U. S. BURKE MACHINE TOOL DIVISION
Brotherton Road 2, Cincinnati 27, Ohio

For more details circle NED-337 E4 on enclosed inquiry slip

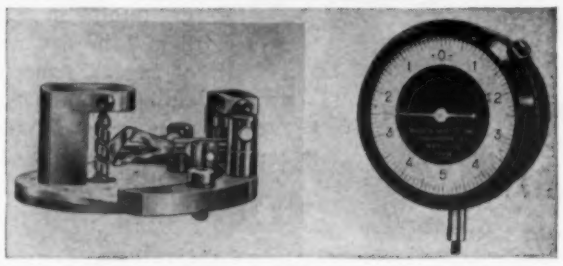
ELECTRIC SPOT SOLDERING TOOL
carbon tipped, works on low voltage

This carbon tipped Lorsol electric Spot Solderer operates on low voltage supplied through 110-v ac transformer which gives intense concentrated heat the instant tool contacts work. Heat continues at high level and shuts off automatically when contact with work is broken. Synthetic insulating handle has shield against heat. Transformer gives six different heats. Solderer can also be fitted with two carbon tips at angles in addition to end fitting. Tool is practical for soldering wide variety of connections, for fixing and removing terminals, tags, etc. Carbons of 3/16, ¼ and 5/16-in. diameter are offered. Available from **Newage International, Inc.**, 235 E. 42nd St., New York 17, N. Y.

For more details circle NED-338 E4 on enclosed inquiry slip

DIAL INDICATORS
function without gear trains

Absence of gear trains in Nilcoid dial indicators serves to minimize accumulative error and vulnerability to shock of these instruments. Where un-



usual shock or strain conditions exist, units can be supplied to embody 0.030-in. overtravel. Solid nylon hand stop pins dampen shock as does new shock-proof spindle. Step-down dial brings scale and pointer to same plane, and flat glass crystal minimizes glare, distortion and parallax errors. In test, Nilcoid mechanism showed no appreciable wear in 10 million cycles. Indicator is made in 1¼, 1 11/16 and 2¼-in. sizes by **Nilsson Gage Co.**, Lake & Fairview, Poughkeepsie, N. Y.

For more details circle NED-339 E4 on enclosed inquiry slip

Metal Cutting

Victor Saw Works, Inc.—Information presented in various sections of this pocket-size "how-to" booklet aids in proper saw blade selection and use. Its 28-pages cover hand, power and band sawing and present many operating tips. Specifications for hand hack saw blades and frames, power hack saw blades, band saw blades and blades for soft, thin materials are included.

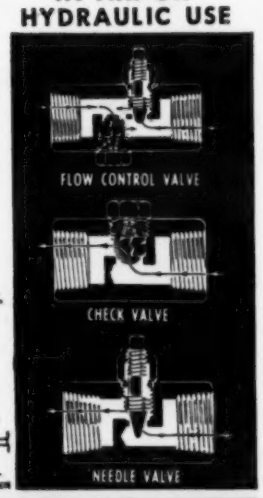
For more details circle NED-340 E4 on enclosed inquiry slip

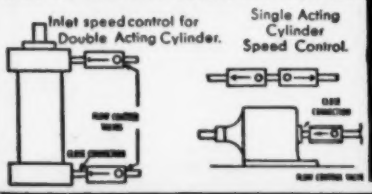
Get Easier, More Accurate Cylinder Speed Control with Pneu-Trol VALVES IN AIR OR HYDRAULIC USE

2000 and 5000 (steel) P.S.I.

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Check Valve and Needle Valve incorporate single function features of Flow Control Valve. All valves available in 5 female pipe sizes — ⅛" to ¾". Valve bodies are made from brass, aluminum, steel or stainless steel. Attractive Prices — Immediate Delivery.

Write for Illustrated Circular and Price List.





Pneu-Trol Devices, Inc.
1436 N. Keating Ave., Chicago 51, Ill.

For more details circle NED-341 E4 on enclosed inquiry slip

New VEELOS TD and TE adjustable v-belt for D and E drives

• easy to couple and install
• does a better job for a longer time

Faster and easier to install. Cup-washers and T-screws join links together to make up individual belts—and you don't need to remove outboard bearings to get the belts in place.

Lasts longer. Advanced construction of stud, cup-washer and T-screw provides added strength and durability—protects the new high-tensile strength link.

Perfectly balanced. Machine-cut sides and uniform links provide smooth, vibrationless, full-power delivery.

Get the complete story of this great, new Veelos TD and TE v-belt. Send for new 8-page illustrated bulletin.

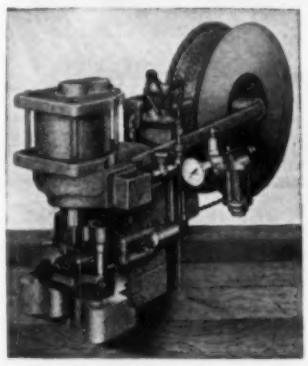
VEELOS THE LINK V-BELT

MANHEIM MANUFACTURING & BELTING CO.
650 Manbel St., Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

For more details circle NED-342 E4 on enclosed inquiry slip

FAST, COST-CUTTING TERMINAL ATTACHING on NEW "P-M" advanced design



COLD CRIMPING MACHINE

Advanced design of new P-M automatic terminal attaching machine provides many improvements that drastically reduce tool set-up time and production lag. Interchangeable rolling tools are quickly set up in special die-set fully accessible in machine, and removable for faster tool changing on bench. Extra die-sets keep tools set up for quick job change-over.

Using strip terminals in continuous form supplied on nonreturnable reels, the machine automatically crimps and cuts off in one operation to produce fast, efficient, economical terminations. Engineered for rugged, continuous operation. Requires minimum production space. Simple, quiet air pressure operation. Modern color scheme and design innovations promote operator acceptance and minimize operational fatigue.

Low priced for short or long runs, P-M machine is sold outright with set of rolling tools ready for operation. Illustrated catalog of standard strip terminals, with full specifications, available when requested on company letterhead.

PATTON-MacGUYER CO.
16 Virginia Avenue . . . Providence R. I.

For more details circle NED-343 E4 on enclosed inquiry slip

FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES
CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition. Write for FREE book including complete information.

WATERLOO METAL BOXES AND CHESTS

Waterloo
VALVE SPRING COMPRESSOR CO.
WATERLOO, IOWA

For more details circle NED-344 E4 on enclosed inquiry slip

22.6% more air
PER POWER DOLLAR

By actual test, DeVilbiss air compressors deliver as much as 22.6% more air per power dollar. Efficiency like this combined with great care in manufacture and assembly are reasons why a DeVilbiss compressor pays for itself out of power savings alone. Full range of pressure. Types available from ½ through 15 h.p. Write today for full details.

DEVILBISS THE DEVILBISS COMPANY
Toledo, Ohio

Barrie, Ontario • London, England • Santa Clara, Calif.

▲ For more details circle **NED-345 E4** on enclosed inquiry slip ▲

HERE'S HOW TO ...CUT COSTS

. . . IMPROVE YOUR LIQUID HANDLING METHODS NOW

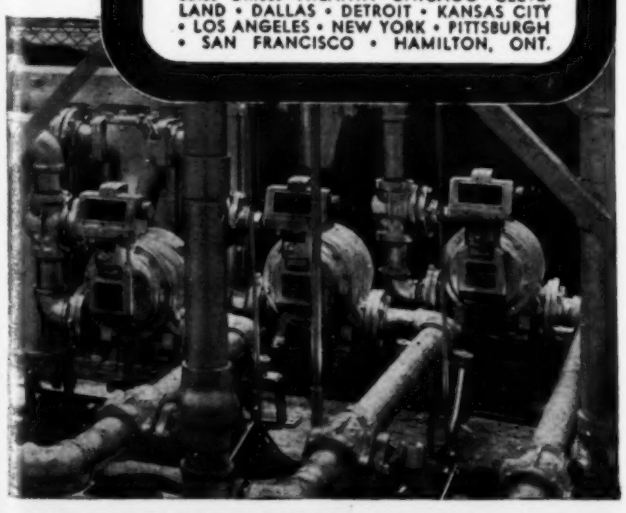
Install Bowser XACTO, the world's most widely used meter. Accurate metering saves money . . . improves uniformity and quality of your products, too!

Industries of all kinds are now using Bowser XACTO meters as their most effective way for checking incoming deliveries, transferring, batching or recording consumption.

It will pay you to write direct or consult your nearby Bowser representative.

BOWSER

BOWSER, INC.
1381 Creighton Ave., Fort Wayne 2, Ind.
Sales Offices—ATLANTA • CHICAGO • CLEVELAND • DALLAS • DETROIT • KANSAS CITY • LOS ANGELES • NEW YORK • PITTSBURGH • SAN FRANCISCO • HAMILTON, ONT.



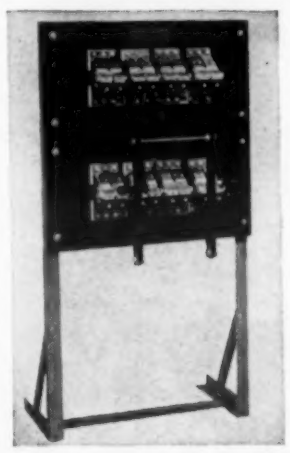
▲ For more details circle **NED-346 E4** on enclosed inquiry slip ▲

WINCH-HOIST
is corrosion and rust resistant

Designed for use in chemical plants or other corrosive atmospheres, Marine model Lug-All winch-hoist has stainless steel cable and anodized aluminum parts. It weighs 8¾-lb and will lift, lower or pull 1½-ton. When used with single cable, it lifts, lowers or pulls ¾-ton a distance of 10 ft. It has oiled-for-life bearings and double interlocking pawls which hold the load. Reversible handle can be quickly removed to provide a tamperproof load binder and is designed to bend if the hoist is dangerously overloaded, preventing damage or possible injury. Unit can be operated in as little as 10-in. headroom. Made by **Lug-All Co.,** 331 E. Lancaster Ave., Wynnewood 6, Pa.

▲ For more details circle **NED-347 E4** on enclosed inquiry slip ▲

REVERSING SWITCH
for plating tank, rated 3000 amp



Cam type heavy duty double pole, double throw switch rated at 3000 amp is designed primarily to reverse current flowing through plating tank. When specified, it can be furnished for use as series-parallel switch for double commutator generators. Unit consists of two ebony asbestos panels mounted on angle iron supports with high leverage manually operated handle. Total of 16 heavy duty toggle-switches are mounted on panels, eight for each current direction. Contact surfaces are cleaned by wiping action of laminated copper moving contacts. Switch is rear connected and is furnished with reversing jumpers and four terminals for incoming bus bars. Made by **Columbia Electric Mfg. Co.,** Dept. NED, 4553 Hamilton Ave., Cleveland 14, O.

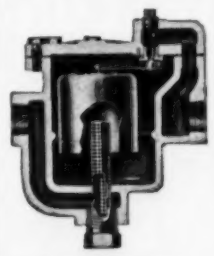
▲ For more details circle **NED-348 E4** on enclosed inquiry slip ▲

Watchmakers' Lathe

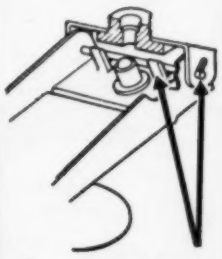
C. & E. Marshall Co.—Specifications and features of line of Moseley, Peerless and Marshall watchmakers' lathes are contained in series of data sheets. Also described are accessories such as traverse grinders, bezel chucks, compound slide rests, wheel cutting and milling attachment, face plates and lathe motor.

▲ For more details circle **NED-349 E4** on enclosed inquiry slip ▲

NEW TRAP
handles more volume in less time!



Sarco *Camlift* Bucket Trap



Cams lever valve off seat; slot and pin provide maximum valve opening

Sarco uses the principle of the fulcrum and lever in this newly designed trap and gives you greater discharge at no increase in trap size. Result: more for your steam trap dollar.

It's all made possible by the Sarco *Camlift* valve mechanism which provides the force needed to open the large valve without a corresponding increase in trap size.

See for yourself how this small inverted bucket trap gives you maximum capacity.

Write for free trial trap giving pipe size, capacity, and pressure conditions.

SARCO COMPANY, INC.
EMPIRE STATE BUILDING, N. Y. 1, N. Y.

▲ For more details circle **NED-350 E4** on enclosed inquiry slip ▲

No tool grinding expense and *minimum* machine down time for tool changing — these are the advantages you obtain from multiple-edge Kendex "throw-away" insert tools.

Kendex precision-ground buttons have Kennametal's high wear-resistance, for long life. Screw-mounted, they can be rotated in seconds to new cutting positions without removing or resetting the tool holder . . . a great time-saving feature. When all cutting edges are used, the insert is thrown away—replacement cost is slight compared to that of regrinding.

Ask your nearest Kennametal tool representative to help you apply this cost-saving tooling to suitable operations in your plant. Kennametal Inc., Latrobe, Pa.

A-8

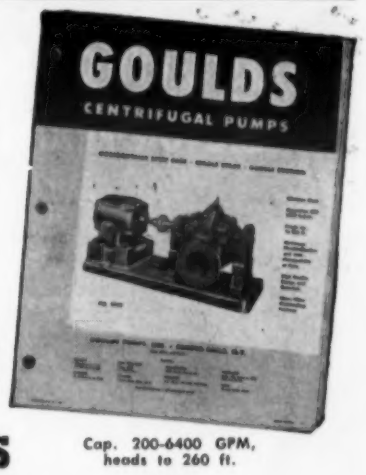
KENNAMETAL CEMENTED CARBIDE TOOLING THAT INCREASES PRODUCTIVITY

*Registered Trade-Marks

SALES OFFICES IN PRINCIPAL CITIES

▲ For more details circle **NED-351 E4** on enclosed inquiry slip ▲

12 pages of facts about a NEW LINE of 19 pumps



Cap. 200-6400 GPM, heads to 260 ft.

Here's good news for pump buyers. The new Goulds Bulletin No. 721.6 gives you a host of information on the *extra* design features that are *standard* on Goulds new Fig. 3405 pumps.

Included are stuffing box bushings, steel-impeller keys, Teflon water seal rings — to mention a few.

This pump construction requires only three shaft and rotating parts assemblies (exclusive of wearing rings and impellers) to provide for 19 pump sizes.

But, get all the facts on how you can save on down time, maintenance costs and spare parts inventories. Write for Bulletin 721.6 today.

Goulds PUMPS INC. Seneca Falls New York

▲ For more details circle **NED-352 E4** on enclosed inquiry slip ▲

RUGGED, DEPENDABLE, ACCURATE GAUGES *For Every Purpose*

If you have requirements for pressure, temperature, flow, level or electrical measuring instruments, for the products you make or for manufacturing operations, it will pay you to consult with U.S. Gauge, the world's largest manufacturer of accurate instruments.

Write today and tell us about your requirements.

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United States Gauge,
Division of American Machine and Metals, Inc.
Sellersville, Pa.

Please send literature checked:
☐ Cast Case Gauges ☐ Test Gauges ☐ Thermometers
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Name _____ Title _____
Company _____
Address _____ City _____ State _____

▲ For more details circle **NED-353 E4** on enclosed inquiry slip ▲

Increased Insulation

BETTER CONNECTIONS

JONES BARRIER TERMINAL STRIPS

Leakage path is increased—direct shorts from frayed terminal wires prevented by bakelite barriers placed between terminals. Binder screws and terminals brass, nickel-plated. Insulation, black molded bakelite. Finest construction. Add much to equipment's effect.

Jones Means Proven Quality

Illustrated: Screw Terminals—Screw and Solder Terminals—Screw Terminal above Panel with Solder Terminal below. Every type of connection.

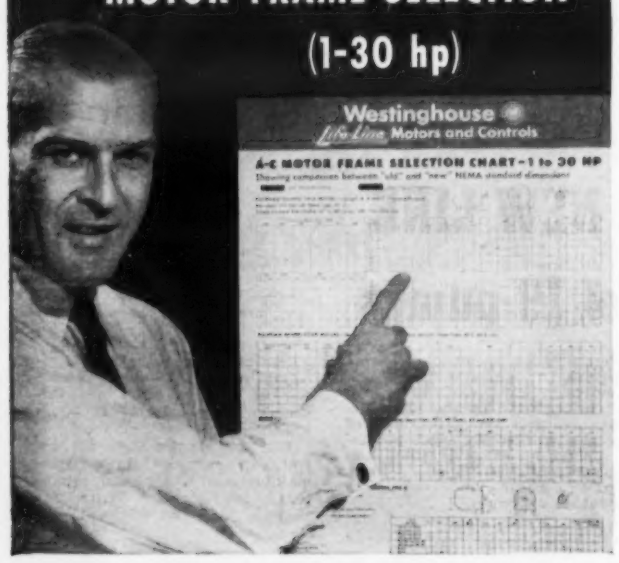
Six series meet every requirement: No. 140, 5-40 screws; No. 141, 6-32 screws; No. 142, 8-32 screws; No. 150, 10-32 screws; No. 151, 12-32 screws; No. 152, ¼-28 screws.

Catalog No. 18 lists complete line of Barrier Strips, and other Jones Electrical Connecting Devices. Send for your copy.

Jones — HOWARD B. JONES DIVISION, CINCH MANUFACTURING CORPORATION, CHICAGO 24, ILLINOIS, SUBSIDIARY OF UNITED-CARR FASTENER CORP.

▲ For more details circle **NED-354 E4** on enclosed inquiry slip ▲

Free NEW GUIDE TO A-C MOTOR FRAME SELECTION (1-30 hp)



This WALL CHART saves time in comparing old and new NEMA frame dimensions for . . .

- **general-purpose a-c motors**
- **wound-rotor motors**
- **single-phase motors**
- **a-c flange-mounted motors**

Here's a quick and ready reference to the new NEMA frame number for each type of a-c motor application (1-30 hp). Start with the rpm and horsepower requirements for a motor, then simply follow across this wall chart to locate the correct, new NEMA frame number and all its basic frame dimensions.

In addition, directly above this information are given the standard dimensions for the corresponding old NEMA frame number. Thus, you have a complete selection guide and comparison table in convenient, durable, chart form ready for wall hanging.

J-21783

YOU CAN BE SURE...IF IT'S Westinghouse

Westinghouse Electric Corporation
3 Gateway Center, P. O. Box 868
Pittsburgh 30, Pennsylvania

Please send me copies of the Westinghouse A-C Motor Frame Selection Wall Chart—DC 463

Name_____

Firm_____

Address_____

City_____ State_____

▲ For more details circle **NED-355 E4** on enclosed inquiry slip ▲

DRUM WARMER
now offered for 115-v operation

Grease, resins, tar, paints, heavy oils, plastics and other materials packaged in 30 and 55-gal drums can be warmed for easy removal by dipping, pouring or pumping with two new models in line of Palmer drum warmers. Models 30-1-15 and 55-1-15, are rated 1500 w at 115 v for 30 and 55-gallon drums, respectively. Line also includes units for operation on 208, 230 and 460 v, single and three phase. Warmers are equipped with 6-ft flexible plug-in connection and Hubbell polarized (grounded) plug and have 100 to 450° F and 60 to 250° F optional thermostatically controlled temperature ranges. Two hinged and insulated halves fit around the drum at point of use. Average heating time for most materials is 25 to 30° per hour. Made by **Harold L. Palmer Co.**, Dept. NE-P-3, 2980 W. Davison Ave., Detroit 38, Mich.

▲ For more details circle **NED-356 E4** on enclosed inquiry slip ▲

SAFETY CLUTCH
for two-handed operation

All machines requiring single-trip or single-cycle control can make use of the Teletrol electronic safety clutch which requires simultaneous motion of both hands. Operator hazards are eliminated as controls are located out of danger areas. Designed by Teletronic Laboratories, the unit converts any mechanical clutch to electric solenoid actuation. Installation requires only drilling and tapping of two holes. Accessories are available for converting mechanism to one hand, knee or foot control, as well as to remote operation. Available from **Benchmaster Mfg. Co.**, Dept. NED-5, 1835 W. Rosecrans Ave., Gardena, Calif.

▲ For more details circle **NED-357 E4** on enclosed inquiry slip ▲

DO YOU KNOW? The emission spectra for 36 of the most typical elements which can be determined by modern flame spectrometry are duplicated on a free pocket card. Emission lines are superimposed on a full-color spectrum from 300 to 900 millimicrons. Offered by Beckman Instruments, Inc., Dept. FC-6, South Pasadena 1, Calif.

▲ For more details circle **NED-358 E4** on enclosed inquiry slip ▲

Won't Smudge!

LABELON PLASTIC

RESISTS: DIRT GREASE WATER ACIDS

Write on it **TAPE**

STICKS WITHOUT MOISTENING

LABELON TAPE sticks without moistening to any smooth, dry surface—yet strips off cleanly. Write or print on it with pencil, stylus or typewriter. Message WON'T SMUDGE . . . defies dirt, grease, water, acids . . . stays clean, easy-to-read—because writing surface is protected by transparent plastic! Available in rolls—or in flat form on backing sheets for typewriter use.

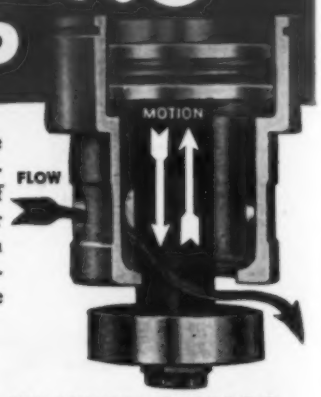
Use Labelon "Write on it" Tape to label stockroom shelves, bins, tools, hard-to-mark parts; for indicating rejects and service department repairs; for marking laboratory equipment, supplies, experiments; for panel boards or wiring; for office files, folders, etc.

For samples and prices, see your nearest dealer or write Dept. NED-5.

LABELON TAPE CO., INC.
450 Atlantic Ave., Rochester 9, N. Y.

▲ For more details circle **NED-359 E4** on enclosed inquiry slip ▲

NO SPRINGS NEEDED



This removable cartridge contains the "piston poppet,"...only moving part of a Hannifin "P-M" Master Valve. This piston-driven poppet is pressure operated both ways. There are ***no springs to fail!***

WRITE FOR OUR COMPLETE NEW "P-M" VALVE CATALOG

Find out how P-M Master Valves (pressure-operated) and Pilot-Master Valves (solenoid-controlled, pressure-operated) can all be serviced with a stock of just two sizes of these removable cartridges. 2-Way, 3-Way, 4-Way. Sizes: ⅜" to 1¼". Also, two complete series of ¼" direct-operated valves. Bulletin 232.

HANNIFIN

Hannifin Corporation, 1127 S. Kilbourn Ave., Chicago 24, Ill.
AIR AND HYDRAULIC CYLINDERS • PRESSES • AIR CONTROL VALVES

▲ For more details circle **NED-360 E4** on enclosed inquiry slip ▲

now-
MEASURE, CONTROL LIQUID DENSITY
continuously and automatically with the

PRINCO Since 1910

Densitrol

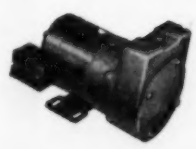
Process industries will welcome the new DENSITROL—the precision instrument that gives a continuous reading of density in flowing liquids such as sugar syrups, brine, acids. DENSITROL electrical indicators or recorders can be located remote from the sampling chamber itself. If desired, DENSITROL can be linked with control mechanisms for automatic regulation. For information on temperature and pressure ranges, calibrations, and other specifics, request Bulletin W-3.

PRECISION
THERMOMETER & INSTRUMENT CO.
1434 Brandywine Street, Philadelphia 30, Pa.

Makers of precision-built thermometers, barometers, hydrometers, gauges, indicators, mercury in glass thermo-regulators.

▲ For more details circle **NED-361 E4** on enclosed inquiry slip ▲

Brady Pumps



Designed and Built

We welcome your pump problems and inquiries. Brady specializes in the design and manufacture of small Centrifugal Pumps . . . used as original equipment by leading manufacturers in Air Conditioning, Refrigeration, Dairy, Machine Tool and many other Industries.

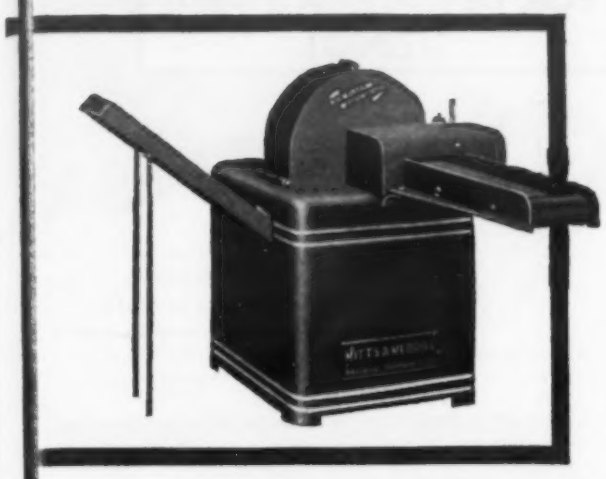
for your Specific job

Write, phone or wire

Brady CORPORATION
1005 East 18th Street Muncie, Indiana

▲ For more details circle **NED-362 E4** on enclosed inquiry slip ▲

M&M AIR-FLUFF PAPER SHREDDER



The Air-Fluff Paper Shredder is an outstanding machine for use in the commercial manufacture of paper excelsior. Blueprints, letters and confidential records are speedily, safely and efficiently destroyed. Built in 3 sizes ranging in capacity from 200 to 2500 pounds per hour. Each machine can be adjusted to cut widths of 1/8", 3/16", 1/4", or 3/8". Write for descriptive literature.

MITTS & MERRILL

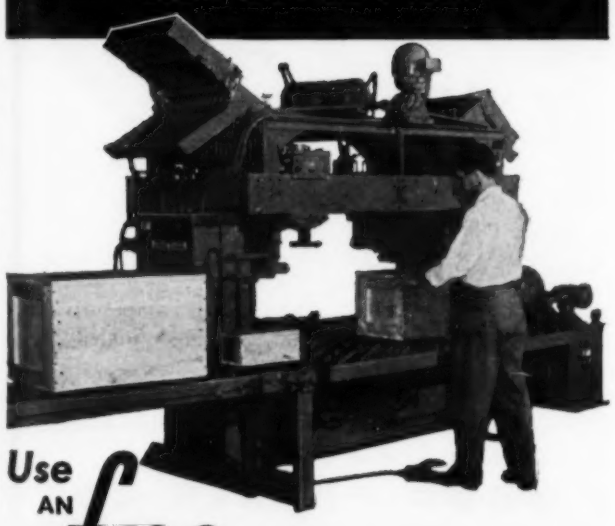
1000 South Water • SAGINAW, MICHIGAN

OUR 100th YEAR 1854 1954

77

▲ For more details circle NED-363 E4 on enclosed inquiry slip ▲

If you SHIP IN BOXES you can SPEED PRODUCTION and SAVE MAN HOURS WITH THIS MACHINE



Use AN fmc fast & versatile RANDOM SIZE BOX LIDDER

ON THIS MECHANICAL NAILING MACHINE ONE OPERATOR LIDS 400 TO 600 BOXES OF MIXED SIZES PER HOUR

Here is a new automatic lidding machine that can easily do work that formerly required several nailing machines. Random Size Boxes can be quickly lidded in rapid succession. Machine adjusts automatically to various box sizes. Only one operator required—lidded box is automatically ejected through open back of machine onto conveyor for removal.

A TIME-SAVING DEVICE THAT WILL PAY DIVIDENDS THRU GREATER PRODUCTION

Sorting boxes into common sizes is no longer a lidding requirement. Now, a common conveyor can transport boxes of mixed sizes from the packing area to the lidding machine. One Random Size Box Lidder and one operator are the only requirements necesary to solve this universal lidding problem.

HOW THE MACHINE IS MADE

Welded steel construction—electrically controlled—hydraulically operated—foot pedal actuated.

SIZES AVAILABLE

Only one standard size machine is needed to handle boxes varying in any dimensions from 6" X 6" X 9" to 24" X 24" X 50".

HERE'S WHERE IT IS NOW APPLIED

Proved in production by Arsenals, Air Bases and Ordnance Depots. NOW AVAILABLE FOR ANY INDUSTRY SHIPPING IN BOXES OF MIXED SIZES.

Available FROM fmc FOOD MACHINERY AND CHEMICAL CORPORATION

TRADE MARK NM953.

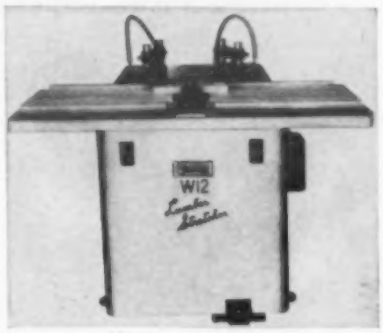
FOOD MACHINERY AND CHEMICAL CORPORATION

PACKING EQUIPMENT DIVISION, RIVERSIDE, CALIFORNIA

WRITE FOR FREE LITERATURE!

▲ For more details circle NED-364 E4 on enclosed inquiry slip ▲

SCARFING MACHINE cuts mating boards simultaneously

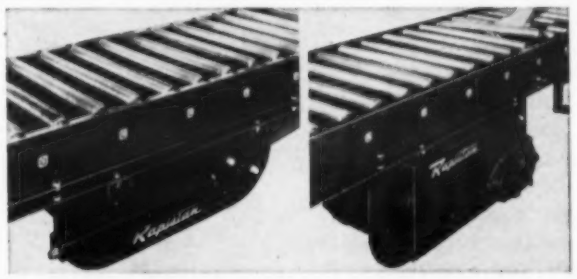


Lumber Stretcher scarfing machine produces matched joints and cuts mating boards simultaneously. It performs a complete cutting cycle from loading to unloading in approximately 15 seconds. Stationary table of model W-12 measures 26 x 68 in. and is slotted so that cutters pass through work clamped to the table. Unit will scarf boards up to 2-in. thick and 12-in. wide. It has hydraulic feeding and clamping system, dual pushbutton start controls and cutter guard. It will produce angular scarfs as well as straight joints, lap joints and tapered finger joints and other variations according to cutter design. It can also be used for some standard shaper operations. Made by **Onsrud Machine Works, Inc.,** 3910 W. Palmer St., Chicago, Ill.

▲ For more details circle NED-365 E4 on enclosed inquiry slip ▲

LIVE ROLLER CONVEYOR made in 15-39-in. widths for long distance handling

Horizontal handling of materials that vary widely in shape, size and weight can be efficiently performed over long distances with the Rapistan LR live roller



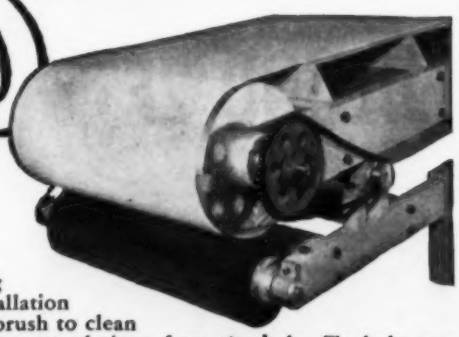
conveyor. Articles can be stopped at any point for inspection, labeling, weighing or similar operations without interfering with the flow of goods at any other point in the line. Unit has carrier rollers and pressure rollers mounted in the same frame, with a motor driven belt running between them.

Lower pressure rolls in any 5-ft section are easily adjusted up and down. Drive and take-up units are separate and self-contained and can be mounted at any point. Conveyor is made up of 10-ft sections that can be combined to give unit lengths up to 150 ft. Eight frame widths are from 15 to 39 in. Standard speed is 80 fpm, but optional speeds from 60 to 200 fpm are offered. Made by **Rapids-Standard Co.,** Dept. LR, 342 Rapistan Bldg., Grand Rapids 2, Mich.

▲ For more details circle NED-366 E4 on enclosed inquiry slip ▲

IDEA FOR PRACTICAL ACTION

FREE Fact Sheet Shows How to Mount FULLERGRIPT Power Brush for Conveyor Cleaning



Many users of conveyors are cutting operating costs by the installation of a Fullergript brush to clean dirt and product accumulations from the belt. To help you we have prepared a sheet with sketches showing how to hitch up and install different types of Fullergript power brushes. A copy will be sent upon request. Simply write to . . .

INDUSTRIAL Fuller BRUSH CO. DIVISION

3530 MAIN STREET • HARTFORD 2, CONNECTICUT

Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

▲ For more details circle NED-367 E4 on enclosed inquiry slip ▲

only GRIPPER SLINGS Are Woven Wire

and here's what that means to You!

STRENGTH. Spiraled loop construction eliminates flexure of individual wires to assure longer life and less metal fatigue.

SAFETY. There's no danger of a sudden break in sling body, specially heat treated handles give extra strength at the hook.

VERSATILITY. Use any sling in basket or choke hitch. Broad, flat sling body grips load firmly, bends completely around even small radius loads when rigged in choke hitch. No kinking, tangling, snarling. Stores in compact roll or hangs against a wall when not in use.

THE CAMBRIDGE WIRE CLOTH CO.

Dept. R • Cambridge 5, Maryland

WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS

OFFICES IN PRINCIPAL INDUSTRIAL AREAS

For Full Information see your mill supply, materials handling or safety equipment distributor. Or write direct for illustrated catalog.

DISTRIBUTORS—write for open territory data!

▲ For more details circle NED-368 E4 on enclosed inquiry slip ▲

For fast . . . CLEAR-CUT MARKING of ROUND PARTS or TUBING —in various diameters

MODEL GRD-950-1 MARKING MACHINE

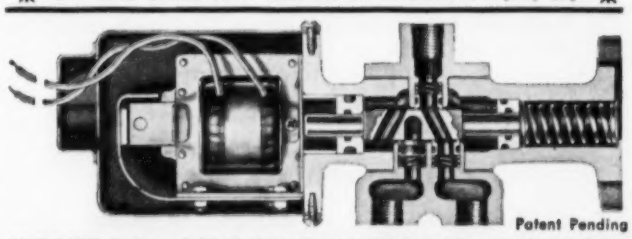
Mark collets, tubing and other round parts or products of various diameters, economically with this machine. Part is placed on mandrel and a quick turn of the lever rolls marking into metal neatly and legibly. Investigate today!

Write for Complete Data!

Mecco SAFETY MARKING TOOLS **M.E.CUNNINGHAM CO.**

1055 CHATEAU STREET, PITTSBURGH 33, PA.

▲ For more details circle NED-369 E4 on enclosed inquiry slip ▲



Patent Pending

"SHEAR-SEAL" SOLENOID VALVES

FOR 250 P.S.I. OIL SERVICE

Competitive in every respect! The patented "Shear-Seal" principle, that has changed the concepts of extreme pressure control, is now available in this popular edition of shut-off, Three-Way, and Four-Way Valves.

Leakproof closure is retained for unbelievably long periods without maintenance, because "Shear-Seals" improve with the lapping action of each valve operation.

Dirt or foreign matter can't harm the sealing quality, because the sealing surfaces remain in constant intimate contact, even during actuation, and flow is through the "Shear-Seal," never across sealing surfaces.

Long trouble free solenoid and valve performance are the end result of the many inherent "Shear-Seal" advantages, well worth your careful consideration.

Write for bulletin 4S.

BARKSDALE VALVES

5125 ALCOA AVE., LOS ANGELES 58, CAL.

▲ For more details circle NED-370 E4 on enclosed inquiry slip ▲

PALMER

MERCURY ACTUATED

DIAL THERMOMETERS

in 3 types to suit any requirements

Full 4½" dial face. Stem can be placed at any angle and case can be rotated to any readable position.

1 **Rigid Stem Dial Thermometer** tapered bulb, interchangeable with standard industrial thermometer separable socket. (As illustrated above.)

2 **Wall Mounted Dial Thermometer** with flexible connecting armor. Case adjustable to easy reading position.

3 **Flush Mounted Dial Thermometer** for panel mounting with flexible connecting armor.

PATENTED

All three types have a full 4½" dial face.

for accuracy: Mercury actuated . . . Fully Compensated by Invar Compensation. Guaranteed Accurate 1 scale division.

for angularity: Can be adjusted to most readable position at any angle desired.

for readability: Bold Black Numbers . . . 11" of scale Reading Dial face can always be placed in easiest readable position.

for interchangeability: Always specify "PALMER" Separable sockets as they are interchangeable for Dial or Industrial type Thermometers.

Send for Bulletin 51-129 for details on the New Palmer Dial Thermometer.

PALMER THERMOMETERS, INC., Cincinnati 12, Ohio

Mfrs. of Industrial Laboratory Recording and Dial Thermometers

▲ For more details circle **NED-371 E4** on enclosed inquiry slip ▲

The Collaps-a-tainer is illustrated in the fully assembled and fully collapsed positions. Standard size box 30" wide x 30" long x 30" deep.

Here's the newest development in Materials Handling Equipment for Interplant Shipping

Collaps-a-tainer

PATENTS APPLIED FOR

Republic Materials Handling Engineers designed the Collaps-a-tainer to meet an ever-growing demand of interplant shippers for a returnable container that could be used on the production line or as a storage bin.

CHECK THESE FEATURES

- √ Lightweight
- √ Rigid and Strong
- √ Easy to Assemble
- √ Stacks Safely
- √ Compact to Return
- √ Durable
- √ Easy to Knock Down
- √ Cuts Handling Costs

This newest development in materials handling equipment is designed to make more trips than any other lightweight box. It is built to give maximum strength with minimum weight. Tests have proved that Republic's new design withstands more abuse for a longer period of time than any lightweight box.

For more information on The Collaps-a-tainer write for Booklet 615.

REPUBLIC STEEL CORPORATION

Pressed Steel Division

6206 Truscon Avenue, Cleveland 27, Ohio

GENERAL OFFICES • CLEVELAND 1, OHIO

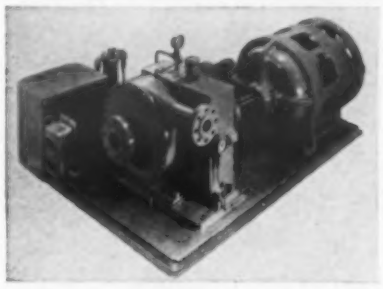
Export Department: Chrysler Building, New York 17, New York

REPUBLIC STEEL

REPUBLIC MATERIALS HANDLING EQUIPMENT

▲ For more details circle **NED-372 E4** on enclosed inquiry slip ▲

CENTRIFUGAL RECYCLE COMPRESSORS low flow, high pressure type feature three impeller designs

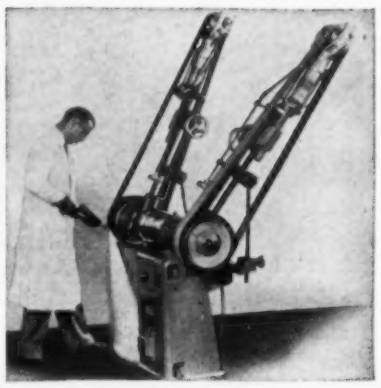


Standardized design of impellers, housings, diffusers, bearings, gears and shafts are featured by line of low flow, high pressure centrifugal compressors. Line meets all recycle requirements in range from 25 to 250 hp, flows as low as 100 scfm, pressure as high as 600 psig and temperatures up to 700° F.

Impeller designs include high pressure type for operations from 50 per cent below to 20 per cent above design flow; nonoverloading type for conditions where flow is variable and overload protection is required; and nonsurging type for wide range of operations. Last is completely stable from design point to zero flow. Drives, available mounted on common base with compressor, can be electric motor, steam turbine, gas turbine, diesel or gasoline engine. Made by **Sawyer Bailey Corp.,** 1561 Niagara St., Buffalo 7, N. Y.

▲ For more details circle **NED-373 E4** on enclosed inquiry slip ▲

GRINDING & POLISHING MACHINES double end pedestal type can use belts, grinding wheels or buffs



All four models of DBA series of contact grinding and polishing machines are completely integrated, double end, pedestal types which can employ either two belts, or a belt and grinding wheel or buff. Machines have 18-in. belt adjustment, permitting use of one size belt with various diameter contact wheels, and have belt tracking devices and spring loaded belt tensioning.

All models are also equipped with special type belt attachments that can be positioned vertically and swiveled to horizontal. Backstand extension swivels 90 degrees for maximum utilization of floor space. Electric motors vary from 1 to 7 hp among the four models, with rotational and surface speeds varying accordingly. Model DBA-3 is shown without guards. Made by **Curtis Machine Corp.,** 1302 E. Second St., Jamestown, N. Y.

▲ For more details circle **NED-374 E4** on enclosed inquiry slip ▲

Production Increased 53%

when **MORSE CHAIN CO.**

Borg-Warner Industry

Installed the

EDLUND 2F

Variable Speed

Drilling and Tapping machines

Results: Production drilling of sprockets increased from 85 pieces per hour to 130 pieces per hour when the EDLUND 2F Variable Speed Drilling machine was installed by Morse Chain Co.

Edlund 2F *Variable-Speed* — the greatest advance in drilling and tapping machines in the past 25 years — has solved many drilling problems and could be the answer to your drilling requirements.

Dealer representation in major cities.

Write for Bulletin #140.

EDLUND Machinery Co. Cortland, N. Y.

Affiliated with Precision Castings Co., Inc., Division Bradley Edlund Corp.

▲ For more details circle **NED-375 E4** on enclosed inquiry slip ▲

Kleenslot THE IDEAL SCREEN FOR DEWATERING AND SIZING!

Cross section at left shows how KLEENSLOT Screens operate on a **non-clogging principle.**

IT CAN BE ADAPTED TO FIT ANY MAKE OF VIBRATOR. It is not necessary to change your present machine to accommodate our screen.

KLEENSLOT WEDGE WIRE VIBRATOR SCREENS are of quality construction and built to give maximum long-life service. The rigid construction and method of installation prevents "whipping".

The wedge shape of the screen wire with its non-clogging, non-blinding features permits perfect separation on wet or dry screening and the rigid construction adds considerable to its capacity and efficiency when used in vibrator applications.

SEND FOR OUR ILLUSTRATED CATALOG

Wedge-Wire CORPORATION

GAS ST. AT NICKEL PLATE R.R., WELLINGTON, OHIO

▲ For more details circle **NED-376 E4** on enclosed inquiry slip ▲

FREE ***Send for your copy today***

NOW • • • You can choose the RIGHT Industrial Work Glove for EACH Job . . .

by using the handy Hood Performance Chart

Chart shows comparative wear and chemical resistance of Hood Neoprene, Rubber and Plastic Coated Gloves; catalog contains eleven more pages of illustrations and description of Hood Industrial Gloves; the choice for *every* job in *any* industry.

HOOD RUBBER CO.

Watertown, Mass.

▲ For more details circle **NED-377 E4** on enclosed inquiry slip ▲

"FULFLO" VALVES

By-pass, oil-relief piston type hydraulic

Standard and Flange models

NO TRICK AT ALL . . .

Just select from 5 springs, install and your FULFLO VALVE is ready to go to work . . . TO MAINTAIN CONSTANT, UNIFORM PRESSURE . . . from #0 to 500#.

NON-CHATTERING, TOO . . . because the cylindrical piston closes off the port in a shearing manner.

FOR . . . machine tool hydraulic mechanism, oil-burning equipment, rams, presses and Diesel engines.

Pipe sizes: ¼" to 2"

WRITE—on your letterhead, please, for personal copy of FULFLO MECHANICAL DATA BOOK. State if for Valves, Pumps or both.

FULFLO THE FULFLO SPECIALTIES CO. Inc.

PUMP AND VALVE MANUFACTURERS

BLANCHESTER, OHIO

▲ For more details circle **NED-378 E4** on enclosed inquiry slip ▲

AMPLICALL equips your business with a pressure-easing internal communication system. Its "clear line" facilities provide *2-second speech contact* within and between departments. AMPLICALL frees your busy switchboard for important outside calls—keeps personnel *on the job*—keeps talk terse—saves "waiting and walking" time. Today, more than ever, your business needs pressure-easing, time-saving AMPLICALL. There is a system to fit your special needs. Get the full facts today!

SEE YOUR PHONE BOOK
For your nearest AMPLICALL specialist, look under "Intercommunication" in your classified phone directory—or write direct for full information.

ELECTRONIC AMPLICALL INTERCOMMUNICATION

RAULAND-BORG CORPORATION
3515-D Addison St., Chicago 18, Ill.

▲ For more details circle NED-379 E4 on enclosed inquiry slip ▲

BOSTITCH P4 STAPLING PLIER
WORKS WHERE OTHERS WON'T

Thin clinching blade → slips easily into tight places

In assembly operations . . . in sealing bags, cartons, corrugated wrappings . . . in making up containers . . . the Bostitch P4 Stapling Plier is a fast-fastening favorite. Loads quickly and easily . . . clinches staples securely with little effort . . . stands up under long, continuous use. Three models; for light, medium and heavy wires, with leg lengths from 5/32" to 9/16."

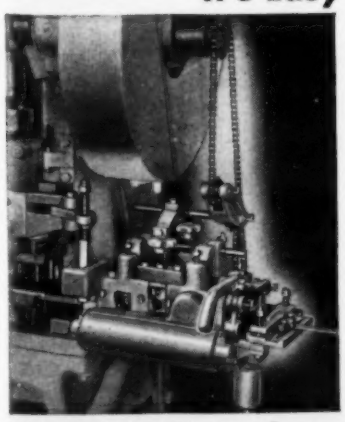
Write for Bulletin 222. Bostitch, 685 Mechanic Street, Westerly, R. I.

FASTEN IT BETTER AND FASTER WITH BOSTITCH® STAPLERS AND STAPLES

▲ For more details circle NED-380 E4 on enclosed inquiry slip ▲

Get RAPID-FIRE PRODUCTION from your PUNCH PRESSES

It's Easy with WITTEK Automatic Roll Feeds



Wittek automatic roll feeds fit all makes and sizes of punch presses — provide maximum efficiency and extreme accuracy in the high speed automatic feeding of strip stock. Made in single roll, double roll, and compound types with straighteners, in models to feed (push or pull) in any direction. Length of feed is easily adjusted to meet individual requirements.

4472

WITTEK Reel Stands
Simplify Handling of Coiled Stock

Choice of standard models to facilitate handling coiled stock . . . from small, light coils to those weighing up to 800 pounds. Larger reel stands automatically center the coils — provide frictional braking action to prevent overrunning, maintain uniform coil slack.

Write for full particulars
WITTEK Manufacturing Co.
4325 W. 24th Place, Chicago 23, Illinois

Automatic ROLL FEEDS AND REEL STANDS

▲ For more details circle NED-381 E4 on enclosed inquiry slip ▲

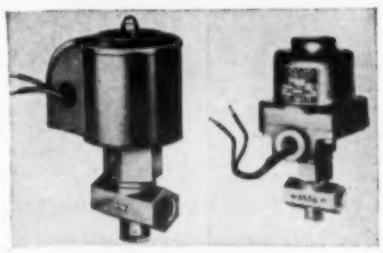
OFFICE PARTITIONS
10 widths, 3 heights offered

Screwdriver is the only tool required to install free-standing Partition-ettes and Office-ettes, modular office furniture that can be used separately or as in-

tegrated panel units. Partition-ettes are available in oak or walnut woods and in steel, color-styled to specifications of the purchaser. Panels are made in ten widths from 9 to 66 in. and heights of 39, 54 and 68 in. Two taller units are topped with 15 and 19 in. of clear or bandfrost glass, respectively. Acoustical panels are also available. Installations do not interfere with existing lighting, heating and air conditioning and do not require bolting to floor, ceiling or walls. Made by **Aetna Steel Products Corp.**, Arnot-Jamestown Div., Dept. N, Jamestown, N. Y.

▲ For more details circle NED-382 E4 on enclosed inquiry slip ▲

TWO-WAY SOLENOID VALVES
handle corrosive gases and liquids at temperatures up to 450° F



Corrosive gases and liquids as well as steam, all up to 450° F, can be handled by Special 8268 and 8269 two-way solenoid valves shown left and right, respectively. Latter unit is equipped with explosionproof solenoid for use in Class I Group D hazardous locations. Bodies are either steel or stainless steel, and in both, all trim is stainless. Numbers 303, 317 and 430F stainless are standard.

Valves are designed for normally-closed operations, while normally-open units are available on special order. Impact closing and opening, plus pull of solenoid itself overcomes any tendency for valve to stick. Laminated or solid cores are available. Class A coils are supplied with steel valves for temperatures up to 212° F, and class H coils on stainless units withstand higher pressures and temperatures up to 450° F.

Pipe sizes are ⅜ and ½-in. for both models, and orifice diameters range from ⅛ to ⅜-in. on each size. Manual operators can be supplied on all sizes except those with ⅛-in. orifice. Made by **Automatic Switch Co.**, 379-D Lakeside Ave., Orange, N. J.

▲ For more details circle NED-383 E4 on enclosed inquiry slip ▲

NOW
one piece molded phenolic case for the
No. 41 Levolier® SWITCH

shown actual size

- easier wiring
- better insulated
- exceptionally rugged
- unconditionally guaranteed

Your troubles are over when you specify a Levolier No. 41 Switch. It is the only switch unconditionally guaranteed against failure in lighting circuits. And NOW it has a new rugged one-piece molded Phenolic case that provides better insulation and makes wiring easier. Mechanism slips out of case exposing terminals with removal of mounting nut. 6 Amp, "T" rated, 125 volts. Underwriters' Laboratories Inspected.

Send now for Catalog No. 49-A

McGILL® electrical specialties

McGILL MANUFACTURING CO., INC. 151 N. CAMPBELL ST. VALPARAISO, INDIANA

▲ For more details circle NED-384 E4 on enclosed inquiry slip ▲

H₂O anyone?

● If you need or use between 200 and 100,000 gallons per minute of clean water, find out how Cuno's FLO-KLEAN filters can save you money. In hundreds of applications throughout industry, the fully automatic, continuously self-cleaning FLO-KLEANS have paid for themselves many times over by making raw river, lake, or well water fit for industrial use—and reclaiming process water. Write for the free FLO-KLEAN bulletin. The Cuno Engineering Corporation, Dept. 702F Meriden, Connecticut.

3.2

▲ For more details circle NED-385 E4 on enclosed inquiry slip ▲

Handy extensions simplify the job of Tornado-cleaning this recently smoke-blackened wall at American Cholesterol Products, Inc.

Make a BREEZE Out of Plant Cleaning

with a 300 M.P.H. TORNADO®

Detached from its base, the Tornado becomes a portable Pac-Vac — superb for cleaning hard-to-reach areas.

American Cholesterol Products in Milltown, New Jersey, maintains laboratory cleanliness in their pharmaceutical plant with a Tornado vacuum cleaner. Their Tornado makes a breeze out of such tedious jobs as cleaning soot ladened walls, and creates no sooty mess during the process.

Cleaning of chemical tanks and equipment is simplified with the handy Tornado Pac-Vac. Detached from the vacuum tank, Tornado becomes a highly portable pack-carried vacuum cleaner. Slung from a comfortable harness, the Pac-Vac makes it possible for your maintenance men to climb scaffolds and crawl behind equipment to vacuum or blow dirt from areas normally inaccessible.

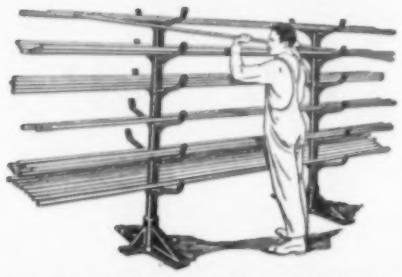
The 300 m.p.h. vacuum of Tornado can make a breeze out of your floor and machinery cleaning, furnace and heater maintenance, and a hundred other jobs around shop and office. Tornado picks up wet and dry materials without conversion. Find out how a relatively small investment in a Tornado can pay big dividends for you by speeding plant maintenance and boosting employee efficiency.

WRITE FOR BULLETIN 600

BREUER ELECTRIC MFG. CO.
5116 North Ravenswood Avenue • Chicago 40, Illinois

▲ For more details circle NED-386 E4 on enclosed inquiry slip ▲

for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save waiting mechanics time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

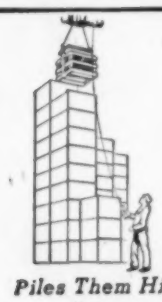
All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co. 129 N. Third St., Reading, Pa.

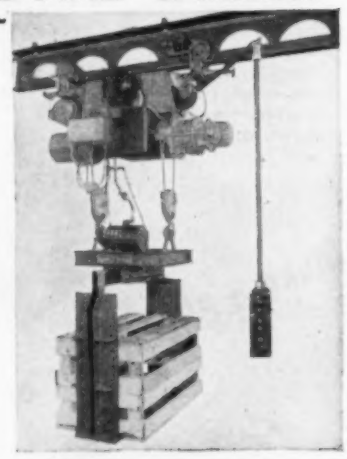
BROWN QUICK-SERVE RACKS

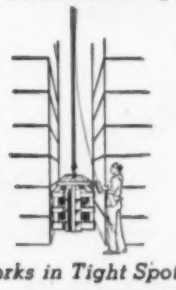
For more details circle NED-387 E4 on enclosed inquiry slip

CRATE GRAB AND CARRIER



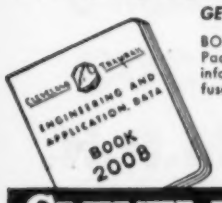
Piles Them High





Works in Tight Spots

Completely motorized. Lifts one or more boxes at a time to 20 ft. height. Motor-driven grab arms spread from 18" min. to 36" max. Enables quick, safe stacking at great heights. Increases storage capacity.



GET THIS BOOK!
BOOKLET No. 2008 Packed with valuable information . . . Profusely illustrated.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6602 East 285th Street • Wickliffe, Ohio

CLEVELAND TRAMRAIL

For more details circle NED-388 E4 on enclosed inquiry slip

Need Fabricated Tubular Parts
FASTER? CHEAPER?

Try Bishop Fabricated Stainless Steel Tubular Parts

Buying fabricated parts direct from the redraw mill saves time and money because "under one roof" fabrication eliminates extra handling costs, reduces transportation charges and speeds deliveries.

J. Bishop & Co. is the only redraw mill that specializes in fabricating tubing. Their 112 years experience fabricating precious metals, and over 20 years drawing and fabricating stainless steel tubing, assure you precision fabrication and quality craftsmanship.

Whether you require stainless steel tubing or fabricated tubular parts, specify Bishop for quality, economy and speed. Catalog on request.

J. BISHOP & CO. • PLATINUM WORKS
STAINLESS STEEL PRODUCTS DIVISION, MALVERN, PA.

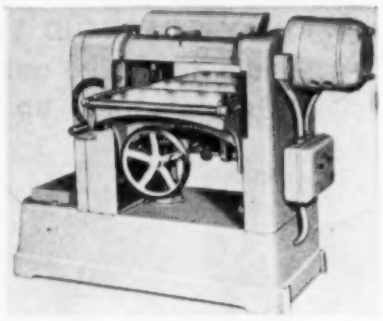
For more details circle NED-389 E4 on enclosed inquiry slip

STEAM CLEANER
water to steam in 45 seconds

Hydro-Therm flow, a preheating arrangement, makes it possible for this Spontane steam cleaner to convert cold water to 80-psi steam in 45 seconds. Mobile unit also has automatic water level and pressure control. Water is heated to about 180° F before entering tank. Cleaning compound is mixed by continuous agitation in heated water, dissolving thoroughly for maximum detergency. Unit operates at steam pressures of 80 to 125 psi, independent of city water pressure. Automatic ignition reduces fire hazard, and drippings from pumps and burner cannot drop on floor or area where machine is operated. Made by **Turbo Machine Co.**, Lansdale, Pa.

For more details circle NED-390 E4 on enclosed inquiry slip

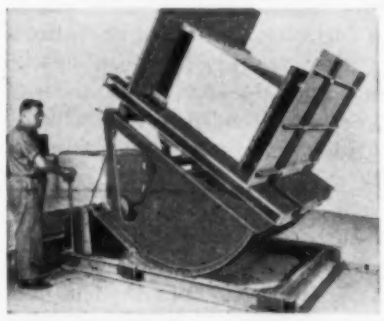
WOOD SURFACER
accommodates 18-in. material



Smallest unit in the line of wood surfacers is the No. 2 single surfacer. It will accommodate material up to 18 in. wide and from 1/8 to 8 in. thick. Speed of the simplified machine is variable from 26 to 60 fpm. Made by **Northfield Foundry & Machine Co.**, Northfield 13, Minn.

For more details circle NED-391 E4 on enclosed inquiry slip

SKID TURNER
handles up to 5000-lb loads



Stock measuring up to 52 x 76 in. and weighing up to 5000 lb can be handled by this Skid-Turner. Entire skid is turned in slightly less than 3 minutes by one man operating pushbutton controls. Design of machine is such that only minimum of squeeze is applied to hold material in place, reducing possible damage to material. Operator has full control of skid at all times. Made by **Southworth Machine Co.**, 31 Warren Ave., Portland, Me.

For more details circle NED-392 E4 on enclosed inquiry slip

Break Loading Bottlenecks!
With **MagLiner** MAGNESIUM **DOCK BOARDS**

Magnesium Light!
Magnesium Strong!
Magnesium Safe!

Write today for your copy of Magliner Bulletin DB-204

Have you considered the advantages of equipping your docks with Magliner magnesium dock boards? Are you aware of the many benefits awaiting you? *Reduced loading costs! Easier handling! Greater speed and efficiency in shipping-receiving operations!* In the case illustrated above, the manufacturer took positive steps to insure against the penalty of loading bottlenecks . . . he investigated and installed Magliner magnesium dock boards! What about you? It costs nothing to get the facts! It can keep you steps ahead of the competition!

MAGLINE, INC.
P. O. BOX 396 PINCONNING, MICH.

For more details circle NED-393 E4 on enclosed inquiry slip

LIPE AUTOMATIC MAGAZINE-LOADING BAR FEED

- Feeds stock to screw machine *all the time* — not dependent on operator.
- Cuts cycle time — *guaranteed* to attain at least 90% of machine's gross geared production capacity.
- Eliminates feed fingers — multiple feed finger feed-outs — feed finger adjustments and replacements. No jamming of remnants.

Lipe's AML Bar Feed is today's big advancement in screw machine stock feeding. Get full details — send today for 4-page folder, name of nearest distributor.

Lipe-ROLLWAY CORPORATION
Manufacturers of Automotive Clutches and Machine Tools
Syracuse 1, N. Y.

For more details circle NED-394 E4 on enclosed inquiry slip

here's help
ON YOUR MATERIAL HANDLING PROBLEMS

Paper
Fertilizer
Feed
Gravel
Municipality
Brewery
Metal Working
Coal
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County
Railroads
Highways
Foundry

"PAYLOADER" tractor-shovels have solved earth and bulk-material handling problems for thousands of industries. The Job Studies shown are authorized, detailed studies of "PAYLOADER" performance and results for specific owners. Any of these studies are available on request, without obligation.

"PAYLOADERS" are available in several sizes and models for indoor and outdoor use and are sold and serviced by a world-wide Distributor organization. The Frank G. Hough Co., 746 Sunnyside Ave., Libertyville, Illinois.

YOU CAN'T COMPETE IF YOUR EQUIPMENT IS OBSOLETE!

PAYLOADER®
THE FRANK G. HOUGH CO. • Since 1920

For more details circle NED-395 E4 on enclosed inquiry slip

OSBORN

Simplifies the job... makes purchasing easier, too

EXPERIENCED painters and maintenance men know the best in brushes at a glance . . . they look for the "OSBORN" name. They know these brushes are tops for quality.

This wide acceptance can be your guide to simplified brush purchasing. Why shop around and risk sacrificing quality? Buy brushes automatically — all of them . . . maintenance, paint and power brushes . . . from one source. Just specify OSBORN . . . the brand that's been the standard of Industry for 62 years. *The Osborn Manufacturing Company, Dept. Z-17, 5401 Hamilton Ave., Cleveland 14, Ohio.*

HANDY POCKET CATALOG describes popular Osborn Brushes of all kinds. Write for your free copy.

Osborn Brushes

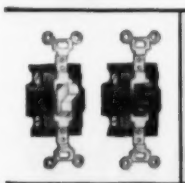
OSBORN MAINTENANCE, PAINT AND POWER BRUSHES • BRUSHING METHODS • FOUNDRY MOLDING MACHINES

▲ For more details circle **NED-396 E4** on enclosed inquiry slip ▲

▲ For more details circle **NED-397 E4** on enclosed inquiry slip ▲

JUST THREE EXAMPLES OF P&S ENGINEERING AND MANUFACTURING SKILL

P&S *For Quick Wiring – For Long Life,*



P&S SUPER A. C. SWITCHES

Maximum Service — Quiet Operation — Long Life. Rated 15 and 20 Amp., 120 V. A.C., 277 V. A.C.

P&S Turnlok® Line

Sturdy—Easy to wire — Modern Design. Connectors, Caps and Receptacles — 10 and 20 Amp., 2, 3 and 4-wire.

P&S Polarized Devices

Extra thick bodies — extra heavy metal parts—to stand rough usage. A complete line of 10 and 20 Amp., 2, 3 and 4-wire connectors, caps and receptacles.

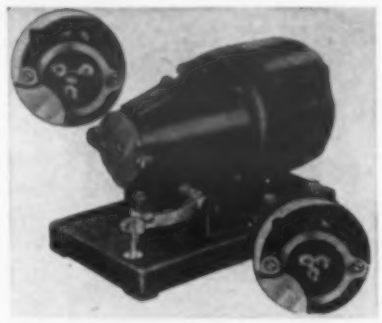
For information on complete P&S Line, send for Catalog No. 49. Specify P&S by catalog number.

Department N

PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK
Offices: 71 Murray St., New York 7, N. Y.
1229 W. Washington Blvd., Chicago 7, Ill.

▲ For more details circle **NED-398 E4** on enclosed inquiry slip ▲

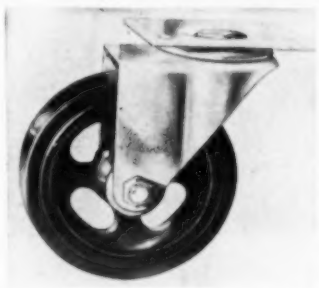
WIRE STRIPPER for solid or stranded wires



High speed wire stripper designed for production line work will make up to 3000 strips per hour. Portable unit is powered by a ¼-hp motor and removes all types of insulation, including plastic, from solid, stranded or multiconductor wire. Simple adjustments provide for diameters up to ½-in. and for strips up to 1½ in. long. Three hardened steel disks cut insulation with a centering action. Insets show open and cutting positions. New set of cutting edges is obtained by loosening and slightly turning the disks. Made by **High Speed Hammer Co.,** 305 Norton St., Rochester 5, N. Y.

▲ For more details circle **NED-399 E4** on enclosed inquiry slip ▲

SWIVEL CASTER for medium-light duty



Top plate and upper raceways of the series 30 PressCoin medium-light duty swivel caster are separate elements. This feature, plus a ⅝-in. king pin, helps retain the ball bearings in the races even under severe service. It is equipped with large ball bearings and large, fully coined raceways. One piece yoke is coined and formed. Caster is heat treated and cadmium plated. Made by **Midwest Precision Corp.,** 303 Hillsdale St., Jackson, Mich.

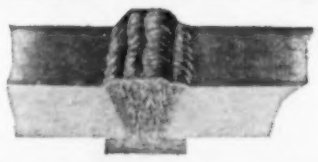
▲ For more details circle **NED-400 E4** on enclosed inquiry slip ▲

DC-AC CHOPPERS designed for 60-cycle use

Twenty-two different models are offered in line of direct current-alternating current choppers for low level operation at noise levels under 1 millivolt. They are made in single-pole and double-pole types. Make-before-break and break-before-make models are available with gold alloy or platinum rhodium contacts, removable cover or hermetically sealed container and base or base and top connections. Frequency range is from 55 to 65 cps. Made by **Stevens-Arnold, Inc.,** 122 Elkins St., South Boston 27, Mass.

▲ For more details circle **NED-401 E4** on enclosed inquiry slip ▲

CONSISTENTLY SOUND WELDS REDUCE COSTS ON WELDING LOW ALLOY-HIGH TENSILE STEELS



No Underbead Cracking

The introduction of low hydrogen electrodes virtually revolutionized welding procedures on high tensile steels. Without pre-heat or post-heat, sound welds can be produced with no danger of underbead cracking. As a leader and pioneer in this field, Arcos offers a complete line of Low Hydrogen Electrodes that assures you the maximum in quality, performance and dependability. These factors are indispensable for producing high strength welds at low cost. You get them consistently with Arcos. For more selection information on Arcos Low Hydrogen Electrodes, write for a copy of the "Arcos Selector Chart".

The ARCOS CORPORATION
1500 South 50th Street, Philadelphia 43, Pa.

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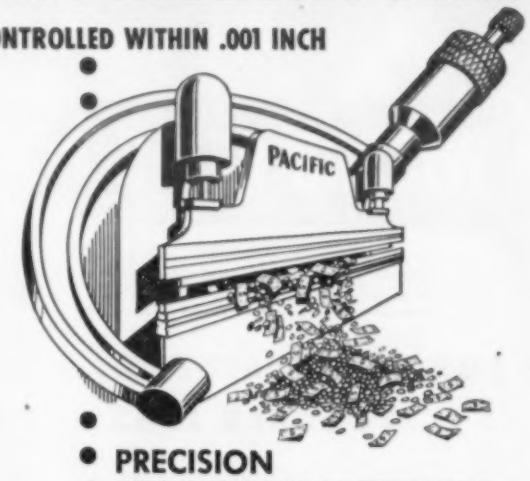
TWO MILLION POUNDS

CONTROLLED WITHIN .001 INCH



PRECISION
1000 Ton Pacific Hydraulic Press Brakes repeatedly form bends within .001". The ram remains level within minutes of arc.

PRODUCTION
Pacific Hydraulic Press Brakes in operation today multiple punch heavy steel fence posts at the rate of 1000 per hour.

PROFITS
Precision + Production = Profits. Investigate today.

PACIFIC INDUSTRIAL MFG. CO.
848 - 49th Avenue - Oakland, Calif.

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In a four month period under actual competitive conditions one Diamond Wheel ground 36,976 pieces, while eight silicon carbide wheels ground a total 16,023 pieces.

RESULT—
1. Less cost per piece 2. Greater Production
3. Less down time.

See for yourself how
SECOMET DIAMOND WHEELS
can provide you with these plus values

Send for informative catalog #54 or contact us direct for information and assistance.

J. K. SMIT & SONS, INC.
MURRAY HILL, NEW JERSEY

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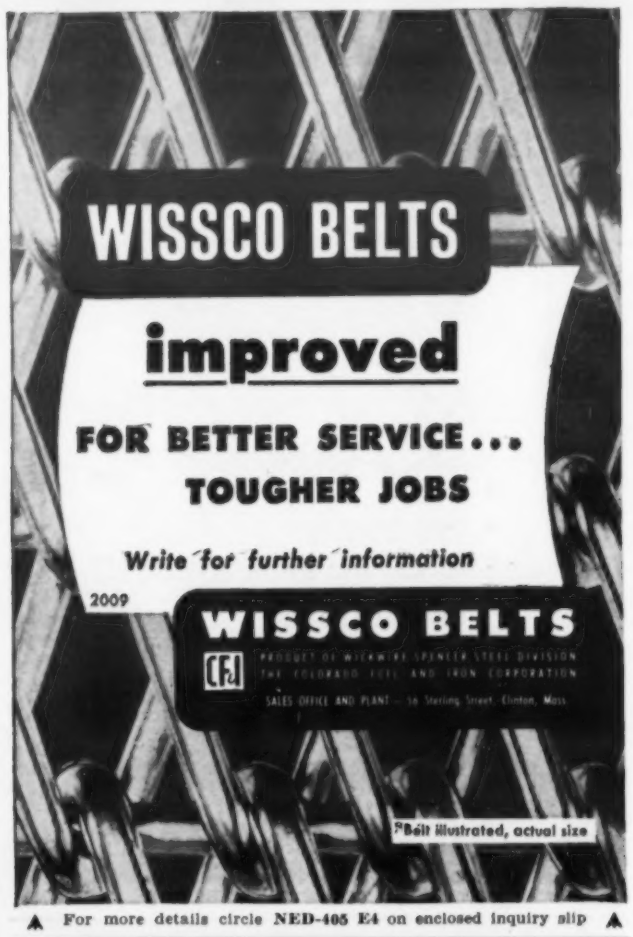

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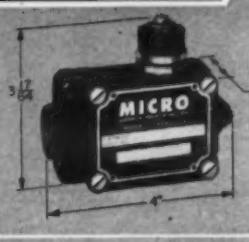
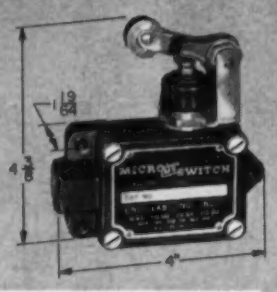
MICRO SWITCH Precision Switches
A PRINCIPLE OF GOOD DESIGN

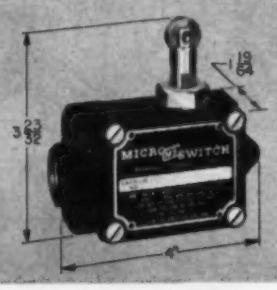
MICRO SWITCH "BAFI" switch with sealed plunger actuator. Underwriters' listed for 1 HP, 115 volts a-c, 2 HP, 230 volts a-c. Circuit arrangement—single-pole, double-throw.



MICRO SWITCH "BAFI" switch with sealed roller lever actuator. Roller arm is adjustable horizontally through 360 degrees, vertically through 225 degrees.



MICRO SWITCH "BAFI" switch with roller plunger actuator. Can be used with cams having approach angle of 30 degrees or less. Roller adjustable to any angle of approach.



Here's a HIGH CAPACITY switch to meet exacting plant applications

Many plant applications call for installation of a switch of more than average electrical capacity.

MICRO SWITCH "BAFI" general utility precision switches meet this requirement with the capacity to make and break steady state currents of 20 amperes, 125, 250 or 460 volts a-c. They will handle inrush currents as high as 75 amperes. They are suitable for controlling tungsten filament lamp loads on a-c current.

The MICRO SWITCH "BAFI" switches are typical of a wide variety of MICRO SWITCH designs which have proved successful in countless industrial applications. They are used as safeties, limits and interlocks to make present plant equipment more automatic, safer and more productive. These switches are carried in stock by 176 MICRO SWITCH Distributors in 155 key cities.

MICRO SWITCH
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
FREEPORT, ILLINOIS

▲ For more details circle NED-406 E4 on enclosed inquiry slip ▲

RING TYPE RHEOSTATS
resistance from 1 to 2500 ohms

Smooth, accurate current control in alternating and direct current circuits of generators and motors, electronic tubes, battery chargers, ovens and lamp dimmers is provided by bulletin 1116 Vitrohm ring type rheostats. Units have resistance values from 1 to 2500 ohms. They are rated 300 w based on 300° C rise. Balanced steel arm with copper graphite shoes and heavy compression spring maintains contact shoe pressure. Made by **Ward Leonard Electric Co.**, 51 South St., Mt. Vernon, N. Y.

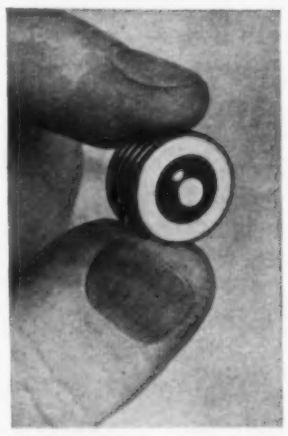
▲ For more details circle NED-407 E4 on enclosed inquiry slip ▲

MACHINERY OILERS
line of pistol and pump types

Seamless spout replaces the soldered seam type spout on a line of pistol and pump type oilers which incorporate a leakproof coupling for use on models with interchangeable spouts. All models have a one-piece drawn steel base. Two types available in over 30 different models are shown. Pistol type at left has a 1 pt capacity and pump type at right has 1½-pt capacity and detachable flexible spout. Made by **Plews Oiler Co.**, 703 S. Seventh St., Minneapolis, Minn.

▲ For more details circle NED-408 E4 on enclosed inquiry slip ▲

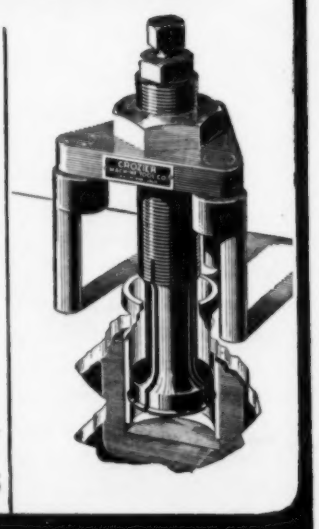
SWITCH "BUTTON"
contacts are sealed in diaphragm



Set of movable contacts hermetically sealed in an accordion-like diaphragm of this switch "button" will perform at any altitude, even in a complete vacuum, with a minimum of pitting. Enclosure is filled with helium gas under pressure. Device can be used under conditions of dirt and dust or in presence of combustible materials. Switch can be produced in any size. Made by **Slater Electric & Mfg. Co.**, Dept. T, 56th St. & 37th Ave., Woodside, N. Y.

▲ For more details circle NED-409 E4 on enclosed inquiry slip ▲

NEW EXTRACTOR
removes bushings from blind holes ...cuts time 75 per cent



The entirely new method of extracting bushings, bearings, sleeves, liners, etc. Eliminates necessity for machining, minimizes the hazard of injury to casings or excessive dismantling of equipment, handles holes from ½ to 2"—over 5 tons have been extracted with unit. Eliminates as much as 75 per cent of labor and time, slashes inventory.

For complete information write Department NED-5

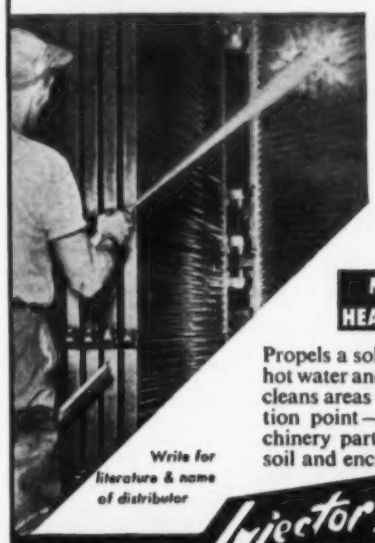
CROZIER Machine Tool Co.
684 NO. PRAIRIE AVENUE, HAWTHORNE, CALIFORNIA

▲ For more details circle NED-410 E4 on enclosed inquiry slip ▲

FOR ANY PLANT WITH 5 PSI STEAM & UPWARD

HYDRAULIC JET CLEANER

Leading sanitation authorities recommend this means of hydraulic scrubbing which is incomparable to any other cleaning method.



LEAST EXPENSIVE TO BUY & OPERATE

Only plant steam and cold water required for operation. Affords maximum safety. Has no moving parts, thus minimizes servicing and repairs.

MOST EFFECTIVE FOR HEAVY DUTY CLEAN-UP

Propels a solid jet of high pressured hot water and detergent. Completely cleans areas up to 30 ft. from operation point—even inaccessible machinery parts. Removes all sludge, soil and encrusted deposits.

Write for literature & name of distributor

Injector Since 1848
SELLERS CORPORATION
1600 Hamilton Street Philadelphia 30, Pa.

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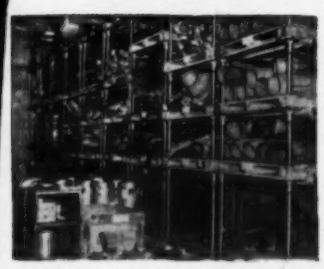
"Saved Cost of New Warehouse" says PALTIER USER

Paltier STORAGE SYSTEM



increases storage space up to 75% and more—decreases man handling as much as 75%

ASK US: PALTIER studies your storage problem—engineers and designs a system for your specific needs.

Many PALTIER installations pay for themselves "right from the start."

This booklet tells the PALTIER story, ask for it today.

THE PALTIER CORP.
1705 Kentucky St., Michigan City, Ind.

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CHICAGO TRAMRAIL

JIB CRANES

FASTER HANDLING at less cost

- 360° Swing • Self-Supporting
- Capacities from ½ ton to 5 tons
- Complete Line of Pillar, Mast and Wall Type Jib Cranes

Write for Catalog

CHICAGO TRAMRAIL CORPORATION
4000 West Washington Boulevard • Chicago 24, Illinois
OVER HEAD CRANES • STAK-RAK CRANES
MONORAIL SYSTEMS AND RACKS

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DODGE TORQUE-ARM Speed Reducer

There's amazing efficiency and economy in this new kind of speed reducer—proved in tens of thousands of installations in all types of industry. No expensive installation required. Driven through any V-belt drive—stock Taper-Lock sheaves prescribed for desired speeds. Single and double reduction series, with capacities from 1 to 43 hp and output speeds from 12 to 330 rpm. Back stop and Tri-matic overload release available. Write for bulletin.

Dodge Manufacturing Corporation, 2100 Union St., Mishawaka, Indiana

DODGE of Mishawaka, Ind.

▲ For more details circle NED-414 E4 on enclosed inquiry slip ▲

ITS FELT TIP WRITES ON EVERYTHING!

in BOLD or *fine* lines

Marking steel drums, tools, parts, pipes, etc. is smooth sailing with the Flo-master Felt-Tip Marker.

The complete range of ten colors in Flo-master Inks permits speedy and accurate identification for assembling, stocking, inspecting.

Flo-master semi-opaque inks — waterproof, non-smudging, fast-drying — are recommended for hard-to-mark surfaces using the KING SIZE Flo-master. For general purpose marking—cartons, cases, etc—use Transparent Inks with POCKET SIZE Flo-master (illustrated).

Contact your supplier or write direct to Cushman & Denison Manufacturing Co., 153 West 23rd Street, New York 11.

Flo-master FELT-TIP MARKER

▲ For more details circle NED-415 E4 on enclosed inquiry slip ▲

Now YOU CAN SPOT WELD STEEL FROM ONE SIDE ONLY with AIRCOSPOT®

New inert-gas-shielded water-cooled AIRCOSPOT Gun welds stainless and mild steel sheet from one side only, without jigs or back-up plates! Nine-inch-long manual Gun weighs only four pounds. Fully automatic welding cycle:—simply set controls, touch Gun to work, and pull trigger. Current, gas and water connections made through single convenient control panel. Operates on 250-amp. DC with 55-volt open circuit voltage.

Write today for free pamphlet that gives complete specifications and operating data.

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60 East 42nd Street • New York 17, N. Y.
Air Reduction Sales Co. • Air Reduction Magnolia Co.
Air Reduction Pacific Co.
Represented internationally by Airco Co. International
Divisions of Air Reduction Company, Incorporated

at the frontiers of progress you'll find

▲ For more details circle NED-416 E4 on enclosed inquiry slip ▲

FOUR-WAY AIR VALVE
lever-operated ½-in. capacity unit

Lever-operated four-way air valve is of ½-in. capacity. When used to operate a double-acting air cylinder, one movement of the lever simultaneously actuates one end of the cylinder and exhausts the other. Valve can be converted for three-way operation by plugging one port, or a spring can be quickly attached to the shift lever to convert the valve to spring-return operation. Made by **Mead Specialties Co.**, Dept. S-40, 4114 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle NED-417 E4 on enclosed inquiry slip ▲

CASTER STEER TRAILER
for overhead tow systems

This 4000-lb capacity, caster-steer trailer is designed for overhead tow system of materials handling. It has standard 3 x 6-ft hardwood deck and is fitted with stake pockets at both sides and rear for standard removable pipe racks. Permanent angle iron rack at lead end is used to mount V-type tow chain and hook assembly fitted with shock absorber springs. Push bar handle for manual handling of trailer is also mounted on rack. Deck size and construction can be altered to meet special requirements. Made by **Mercury Mfg. Co.**, 4038 S. Halsted St., Chicago 9, Ill.

▲ For more details circle NED-418 E4 on enclosed inquiry slip ▲

PRECISION LEVEL
for aligning precision machinery

Designed for accurate setting, erecting and testing of machinery and surface plates, model 59 precision level has ground and graduated vial of 10-second accuracy, with one division equalling 0.005-in. per foot. Alloy base metal has minimum dimensional change under temperature variation, and top plate is made from a nonconductive insulating material. Screws have 64 threads per inch for fine adjustments. Auxiliary level shows lateral position. Level uses seasoned castings and has accurately scraped machined surfaces. It is 15 x 3 x 1½ in., weighs approximately 6 lb and is packaged in a wooden box with hinged cover. Made by **Lufkin Rule Co.**, Hess St., Saginaw, Mich.

▲ For more details circle NED-419 E4 on enclosed inquiry slip ▲

Now HERE'S a SENSATIONAL Expansion!

NEW! Brightboy with SILICON CARBIDE

For Faster, Finer Finishing of
• ALL METALS • PLASTICS • LAMINATED MATERIALS

Beat competition with versatile Brightboy's broader, better methods and faster, finer finishing—BURRING, CLEANING, FINISHING, POLISHING, IN ONE OPERATION. Time savings as high as 50%!

In answer to growing demand THE COMPLETE BRIGHTBOY LINE IS NOW COMPOUNDED WITH EITHER ALUMINUM OXIDE OR SILICON CARBIDE GRAIN

and . . . Brightboy is now available in a wide variety of grain sizes ranging from extra coarse to extra fine, in soft, firm and tough rubber binders.

Write us for detailed information.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 No. 13th Street, Newark 7, N. J.

America's Pioneer Manufacturer of Rubber-Bonded Abrasives

▲ For more details circle NED-420 E4 on enclosed inquiry slip ▲

EVEN THE BEST CAN BE IMPROVED

Gerotor has redesigned its series of small capacity pumps to give even more . . .

- **FLEXIBILITY**—the QDB can be operated in either clockwise or counter-clockwise direction by simply changing the position of one internal plug!
- **RANGE OF APPLICATION**—the QDB can be obtained with an extended shaft to operate another pump in tandem, off of one motor!
- **DEPENDABLE SERVICE**—the QDB is built to give more dependable, service over a longer service span than any comparable pump. Its longer life reduces your maintenance and replacement costs.

If you have need for pumps in the QDB range, call on Gerotor.

Gerotor makes a complete line of hydraulic pumps in ranges from .4 g.p.m. to 40 g.p.m. The Gerotor engineers can help you solve your hydraulic pump problems. Write for *free literature* and full particulars.

Check this Capacity Table

Type	Delivery g.p.m.—1800 r.p.m. Discharge Pressure p.s.i. 0	250	500	750	1000
QDB .4	.42	.40	.38	.35	.31
QDB .75	.84	.80	.78	.73	.66
QDB 1.5	1.67	1.62	1.57	1.50	1.42

GEROTOR MAY CORP. - Box 86 - Baltimore 3, Md.

GEROTOR
HYDRAULIC PUMPS & MOTORS

▲ For more details circle NED-421 E4 on enclosed inquiry slip ▲

PYREX GAUGE GLASS & CYLINDERS

furnished in any length or finish

● For fast service on Pyrex Tubular Gauge Glass, contact Swift! We can supply Tubular Gauge Glass or Cylinders from stock in any length or finish . . . 2 mm. O.D. to 7" O.D. . . . for chemical, pharmaceutical or industrial applications. Write, wire or phone for immediate delivery.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC., ELMIRA, N.Y.
330 Tenth St., San Francisco 3 • 140 Boylston St., Boston 16
807 Mateo St., Los Angeles.

▲ For more details circle NED-422 E4 on enclosed inquiry slip ▲

COOLING CAPACITY for a battery of injection molds

with *Acme* DRY-EX®

Keep your molds at their most efficient operating temperature at all times with an Acme Dry-Ex Liquid Chiller. Models ranging from 5 to 260 tons of refrigeration and for fluid circulation rates from 10 to 600 gallons per minute enable you to select a unit "tailored to your production needs."

You can forget your mold cooling problems when an Acme Dry-Ex is installed.

Acme also incorporates their Dry-Ex Chiller in the new Flow-Cold Package complete with all necessary system components. Investigate this sensational package for your 2 to 15 ton requirements.

Write Dept. N for more information on Acme Dry-Ex Chillers.

ACME INDUSTRIES, INC.
JACKSON, MICHIGAN

Continuously serving the Refrigeration and Air Conditioning Industry since 1919

▲ For more details circle NED-423 E4 on enclosed inquiry slip ▲

HOW TO SAVE MONEY ON

STEEL SHELVING

The real cost of shelving is the erected cost

That's why highest quality DeLuxe shelving costs you less. DeLuxe precision shelving has *fewer parts*, uses *80% less bolts* and is the *only shelving* available that is *100% adjustable*. It's quicker, less costly to install—easier to adjust.

Wherever you are, a DeLuxe factory representative is available to give you a complete engineering, planning and layout service without obligation.

Write for a free catalog now, while your mind is on shelving.

DELUXE METAL FURNITURE CO.
305 Struthers St., Warren, Pa.

DeLuxe

For over 25 Years Manufacturers of.
Storage Shelving • Library Shelving • Storage Cabinets • Shop Equipment

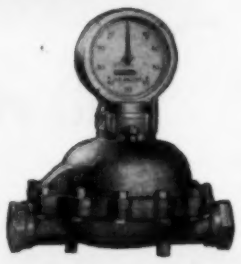
▲ For more details circle NED-424 E4 on enclosed inquiry slip ▲

With NIAGARA METERS

Imagine the time and guesswork you can save by measuring liquid volumes automatically. Just set the hand of the NIAGARA Electri-Contact METER at the volume desired and turn on the flow of liquid.

SET IT — FORGET IT

It will turn off automatically. NIAGARA METERS enable your men to handle more work.



Practically every type of industry is using and acclaiming the accuracy of NIAGARA METERS. They precisely measure liquid volumes from one to one thousand gallons a minute!

There's a NIAGARA METER for nearly every type of liquid including most chemicals. Investigate the advantages of NIAGARA METERS.

Write today for full details.

BUFFALO METER CO.
2903 MAIN STREET • BUFFALO, NEW YORK

▲ For more details circle NED-425 E4 on enclosed inquiry slip ▲

SLIDE RULE
indicates milling speeds and feeds

Slide rule gives speeds and feeds for milling operations using Clarkson cutters on steels, cast iron, phosphor bronze, mild steel, brass and aluminum. Ratings are purposely conservative, and are designed to be used as a starting point from which to work up to the possible maximums for individual conditions. Slide rule calculator is offered by **Clarkson, Inc.**, Sales Dept., 320 Ontario St., Toledo 2, O.

▲ For more details circle NED-426 E4 on enclosed inquiry slip ▲

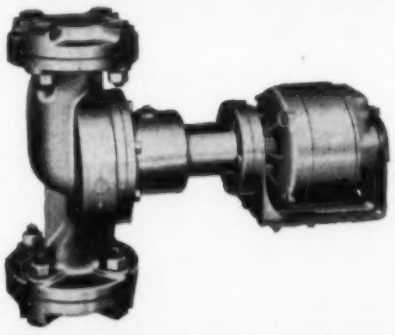
ALL-PURPOSE DOLLY
portable, can be used as test stand

Shown here in use as a portable testing stand, all-purpose dolly consists of two green crackle finish steel shelves measuring 24 x 24 in. and spaced 19¾-in. apart set in a rigid chrome plated tubular steel framework. It is provided with 3-in. casters, two of which are braked. Accessories include drawer assembly with lock available for either or both shelves, five-position lift bar which tilts equipment into best working position, and a power outlet strip with four outlets so that one cord can bring power to all equipment. Made by **Browning Laboratories, Inc.**, Dept. 1, Winchester, Mass.

▲ For more details circle NED-427 E4 on enclosed inquiry slip ▲

CIRCULATING PUMP
available in bronze or cast iron

Recently added to line of circulating pumps is this 2½-in. unit. Line now includes a range of sizes from ¾-in. up to and including four 3-in. units. All sizes and models are available with either bronze or cast iron construction to suit the projected service. Made by **Taco Heaters, Inc.**, 135 South St., Providence 3, R. I.



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This Abrasive Belt Grinder

increased production 200%!

● Time and time again, in hundreds of plants, Engelberg BG8 Abrasive-Belt Grinders have greatly speeded up operations previously performed on lathes, milling machines and ordinary grinders.
For example, the rim of the metal box shown above was originally milled for a close-fitting, watertight cap at the rate of 33 per hr. Output with a BG8 Grinder is now 99 per hr. This is only one of the documented case histories described in our free Abrasive-Belt Grinder booklet. Send for your copy today. Better yet, send samples of your machined pieces for our analysis. No obligation.

ENGELBERG

THE ENGELBERG HULLER CO., INC.
165 Seneca St.
Syracuse, N. Y.

Manufacturers of Porter-Cable Abrasive-Belt Grinders

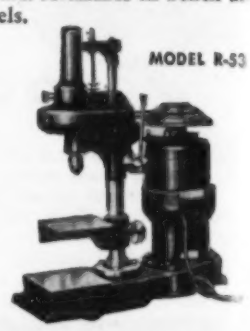
▲ For more details circle NED-429 E4 on enclosed inquiry slip ▲

DESIGNED FOR HIGH SPEED PRODUCTION LINE DRILLING

STURDILY BUILT...BUT SO SENSITIVE THAT OPERATORS ACTUALLY "FEEL" DRILL PROGRESS...SLASHES BREAKAGE COSTS

An accurate, precision drill for handling all types of work from No. 80 to ¼". Heat treated and ground spindle guided in vertical quill, supported by annular bearings to eliminate belt pull. Rugged thrust bearings carry full drilling load. Table height, spindle travel, speeds quickly adjusted. Available in bench and pedestal and multiple spindle models.

SPECIFICATIONS
Capacity: No. 80 to ¼"
Speeds: 750 to 6000 RPM
Max. Spindle Travel: 2¼"
Drills to Center of 6" circle
Base: 10" x 20"
Height: 24½"
Net Wt.: 108 lbs.


MODEL R-53

WRITE FOR LITERATURE

HIGH SPEED HAMMER CO., INC.
Manufacturers of HIGH SPEED Riveting Hammers, Staking Machines, Sensitive Drilling Machines and Wire Strippers
315 W. NORTON ST., ROCHESTER 21, N. Y.

▲ For more details circle NED-430 E4 on enclosed inquiry slip ▲

For Aisle Marking

PERMACEL 32
COLORED PLASTIC TAPE

PERMACEL® TAPES

Find out how you can use self-sticking tape . . . write Permacel Tape Corporation, New Brunswick, N. J.

▲ For more details circle NED-431 E4 on enclosed inquiry slip ▲

WHY RISK

use UNBREAKABLE PLAXPAK® Polyethylene BOTTLES

They will improve plant safety . . . simplify handling of bulk fluids . . . protect purity of liquids put in them. For details, write for "Plaxpak Utility Bottles" brochure or ask to see your nearest Plax distributor.

PLAX CORPORATION
DEPT. D, WEST HARTFORD, CONNECTICUT
IN CANADA: Plax Canada, Ltd., Montreal & Toronto

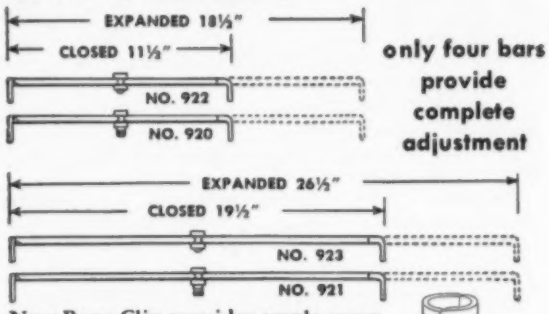
▲ For more details circle NED-432 E4 on enclosed inquiry slip ▲

NOW! RACO OFFERS

the first adjustable bars that fill every requirement . . . pass every test!

STOCK JUST 4 BARS INSTEAD OF 16

Only 4 bars enable you to install any electrical switch or outlet box wherever you want it regardless of studding size or spacing.



only four bars provide complete adjustment

New Raco Clip provides ample room for device and added wiring space in all types of electrical boxes.

Write Today for Information on Raco Bar Hangers.

"A BOX FOR EVERY NEED"

ALL-STEEL EQUIPMENT INC., Aurora, Ill.

For more details circle NED-433 E4 on enclosed inquiry slip

Overhead Work's *Not just 'UP'*

When you have to go *around* a job or *get inside* a curved structure, buy Universal Ezebilt—*the one scaffold* you can use on most every job. For example, Ezebilt's exclusive Gravity-Lock brace mechanism lets you "swivel" standard panels to "circle" curved surfaces, or to "rack-down" safely in narrow passages. And you don't need to fuss with nuts and bolts or loose parts — Ezebilt's rustproof Gravity-Lock helps you to put your scaffold up and take it down in much less time — handle jobs easier and faster because there are '*no bolts to master.*'

UNIVERSAL Ezebilt SCAFFOLDING

Write for New Catalog

Shows how to "custom-build" work platforms to any size or shape with standard Universal Ezebilt Scaffolding.

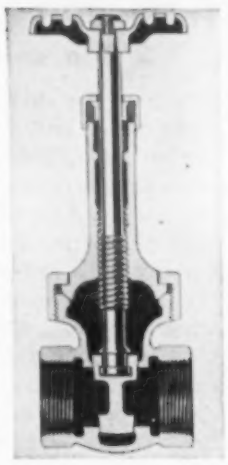
CIRCLING SAFETY ROLLING TOWER

Distributors offer fast help and service. See your phone directory.

UNIVERSAL MANUFACTURING CORP.
ZELIENOPLE 6, PA.

For more details circle NED-434 E4 on enclosed inquiry slip

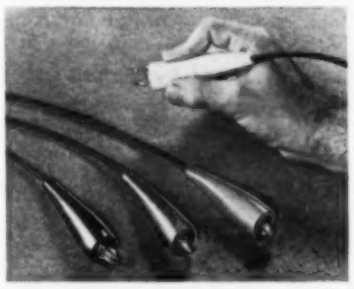
BRONZE VALVES equipped with corrosionproof stems



Resistant to corrosion and dezincification, line of bronze valves is equipped with stems of Coradur, an aluminum-silicon bronze alloy. Material has a tensile strength of over 95,000 psi, is hard and has a low coefficient of friction. Bronze globe, angle and gate valves are equipped with the Coradur stems. Made by **American Chain & Cable Co.,** R-P & C Valve Div., Reading, Pa.

For more details circle NED-435 E4 on enclosed inquiry slip

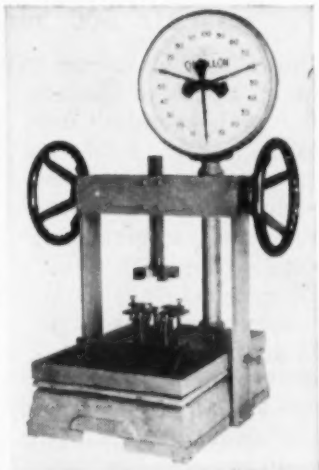
TEST CLIP INSULATORS available in blue and yellow plastic



Test clip insulators are available in electric blue and canary yellow in variety of sizes to assist in circuit color-coding and identification. They are fabricated from Vinylite, have high dielectric strength, and are oil and grease resistant. Thin flexible wall permits easy manipulation of the clip inside the insulator and protects against short circuits and shock. Made by **Mueller Electric Co.,** 1567B E. 31st St., Cleveland 14, O.

For more details circle NED-436 E4 on enclosed inquiry slip

TUBE SOCKET TESTER for insertion, extraction pressure



Special interchangeable gages simulating vacuum tube bases and/or vacuum tube sockets are used by this vacuum tube socket "grip" tester to provide readings of insertion and extraction pressures. Device is applicable to male and female sockets over a range of 0 to 100 lb. Inspection with this tester helps determine whether the tube installation will withstand the vibrations and centrifugal forces it encounters in such equipment as aircraft and railroad radios and mobile electronic devices. Made by **Size Control Co.,** 2501 W. Washington Blvd., Chicago 12, Ill.

For more details circle NED-437 E4 on enclosed inquiry slip

Your maintenance costs go down and plant efficiency goes up when you use Aluminum Paint in your plant maintenance program. Its longer life, lower overall cost and many other extra values make Aluminum Paint the best maintenance buy. MD Aluminum Pigments used by leading paint manufacturers in making of Aluminum Paint are your assurance of the best.

For ideas where to use Aluminum Paint to best advantage in your plant, send for your copy of the new ALUMINUM PAINTING HANDBOOK.

MD METAL POWDERS METAL PIGMENTS METAL ABRASIVES

METALS DISINTEGRATING CO., INC.
Elizabeth 8, New Jersey

WORLD'S LARGEST MANUFACTURER OF FINELY DIVIDED METALS

For more details circle NED-438 E4 on enclosed inquiry slip

For maximum "see-ability"... better work...increased production

LUSTRA JADE-LITE

LUSTRA JADE-LITE gives a special quality of light that steps up "see-ability". In addition, its unique tone reduces glare, helps eliminate eye-strain, produce better work and boost production. Jade-Lite is absolutely tops for use in critical work areas. Write for the whole story on Jade-Lite Fluorescent Tubes — it can bring new efficiency and economy. **Lustra Corporation, Dept. R-5. 36 Washington St., Brooklyn 1, N. Y.**

Lustra
AMERICA'S DATED LAMPS

DOUBLE DUTY REFLECTOR LAMPS, INCANDESCENT LAMPS, FLUORESCENT TUBES, SPOTLITES AND FLOODLITES, RUGGED DUTY LAMPS, FLUORESCENT FIXTURES AND STARTERS

For more details circle NED-439 E4 on enclosed inquiry slip

MOUNTED WHEELS AND POINTS

How they speed production told in free booklet

You can rough or finish grind, deburr, chamfer, break corners . . . do dozens of production line operations fast, safely with Mounted Wheels and Points by CARBORUNDUM. How they save hours of production time over slow, tedious hand finishing operations is shown in this free booklet. The wide range of shapes and sizes of these abrasive wheels permits grinding and finishing on any surface — flats, contours, hard-to-reach areas, inside diameters of all types. You can use them with maximum economy on portable grinders or all types of internal grinders. This booklet, "Mounted Wheels and related Abrasive Products by CARBORUNDUM" gives you complete information . . . tells you what types of abrasives are recommended for all kinds of metals and some non-metallics. Charts show the complete range of shapes and sizes available. Grading recommendations for many jobs are included — for both high speed portable grinding and internal grinding. A special section describes MX® Mounted Wheels . . . the wheels that finish as they cut. Another section covers coated abrasive products by CARBORUNDUM for rapid finishing with portable equipment.

Send for your free copy of this helpful booklet. Use the inquiry form provided by this publication — or write **The Carborundum Company,** Dept. NED 81-49, Niagara Falls, New York.

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81-49

For more details circle NED-440 E4 on enclosed inquiry slip

Design Data on Plastic Laminates

The *Synthane* catalog is a good source for engineering data on laminated plastics. 31 different grades of *Synthane* are described in detail; their properties and recommended uses are given.

In addition to engineering data, the catalog supplies quick reference information on available grades of *Synthane* sheets, rods, tubes, molded shapes and fabricated parts, and do's and dont's in design for using plastics. Whatever you need in laminated plastics, the *Synthane* catalog can help you find the answer. To get your copy, use the coupon below.

SYNTHANE

SYNTHANE CORPORATION
N. E. RIVER ROAD, OAKS, PENNA.

Manufacturers of Laminated Plastics

Please send me a copy of the Synthane catalog.

Name_____

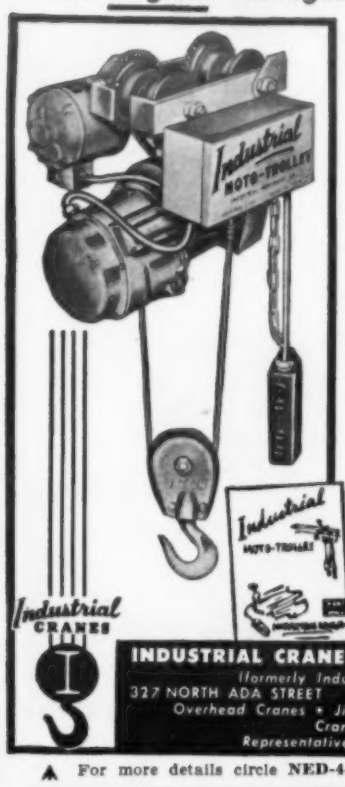
Address_____

City_____ (zone)_____ State_____

For more details circle NED-441 E4 on enclosed inquiry slip

Industrial MOTO-TROLLEY

The Original Packaged Motor Driven Trolley



MAY BE ATTACHED TO YOUR STANDARD ELECTRIC HOIST . . .

Adjustable to Accommodate Wide Variety of Beam Sizes

- Crown-tread machine steel wheels with hardened drivers.
- Each wheel equipped with double-row precision ball bearings and removable-head axle with Alemite grease fittings.
- Powered by a crane-duty high-torque totally enclosed motor of 30 minute 55 degree rating.
- Magnetic contact panel has transformer to reduce voltage in single speed push button control circuit.
- 4-button control station operates single speed trolley and hoist motions.

Write for Literature

Industrial CRANES

INDUSTRIAL CRANE & HOIST CORPORATION
(formerly Industrial Equipment Co.)
327 NORTH ADA STREET CHICAGO 7, ILLINOIS
Overhead Cranes • Jib Cranes • Monorail Systems
Crane Runways
Representatives in Principal Cities

For more details circle NED-442 E4 on enclosed inquiry slip

Look To The Leader For Lubricating Devices

GITS

40 Years' Leadership

Yes, for 40 years GITS has been setting the standard for industry... solving tough lubricating problems...earning the confidence of manufacturers . . . it's the reason people say, "Call GITS first".

Low Cost

Yes, GITS oil cups can do a complete lubricating job for you . . . prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production . . . and GITS oil cups cost so little.

World's Largest Selection

Yes, only GITS can offer you such a wide range of standard stock sizes. From *just one* source you can get *all* lubrication devices in *any design* for *any purpose.*

Consistent Top Quality

Yes, GITS is known for uniform quality in design, materials and machining . . . this means constant, dependable performance for you. Inferior products can cost you time and money. Demand the best ...get GITS.

Write Today for FREE CATALOG No. 60A Use it as your handy reference for lubricating devices

Oil Hole Covers, Oil Cups, Grease Cups, Bottle Oilers, Gauges, Gravity-Feed, Wick-Feed, Constant Level, Vibrating Rod Styles. Threaded or Drive-Type, Elbow or Straight.

GITS BROS. MFG. CO.

1833 S. Kilbourn Ave. Chicago 23, Ill.

For more details circle NED-443 E4 on enclosed inquiry slip

FLASH UNIT

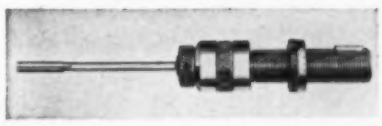
2½-in. unit for miniature lamps

Designed for G-E M2 miniature flash lamp, Emtu flash unit is only about 2½ in. square and has a space for mounting two small pen light batteries. Reflector contour obtains good light efficiency from the bulb. Adaptor shoe fits the accessory clip of most cameras, and three accessory clips are provided on the side of the unit for mounting additional units when required. Manual switch is provided for open flash photography, and socket accepts cords or plugs for multiple flash work. Bulbs are ejected by a small lever. Made by **Burke & James, Inc.,** 311 S. Wabash Ave., Chicago 4, Ill.

For more details circle NED-444 E4 on enclosed inquiry slip

TAP & REAMER HOLDERS

floating threaded chuck type



Tool replacement is speeded by JT lock-and-eject type floating tap and reamer holders, which lock chucks by means of a threaded nut revolving on ball bearings on the end of the holder. When nut is rotated clockwise, chuck is drawn into the holder and compressed evenly and tightly on the tool shank. Opposite rotation unseats chuck, allowing easy tool removal. Chuck is ejected by turning nut until threads are completely disengaged. Unrestricted floating action is provided by double-gear spline drive design. Holder compensates for misalignment between tool and work in multiple-spindle operations. Made by **Scully-Jones & Co.,** 1952 S. Rockwell St., Chicago 8, Ill.

For more details circle NED-445 E4 on enclosed inquiry slip

TEMPERATURE INDICATORS

operate 500 hours on batteries

Direct reading accuracy on all models of Climate-Survey temperature indicators is ±0.5° F through all ranges. Instrument is made in three models: 196, with six overlapping ranges from −70 to 60° F; model 197, with six ranges from 10 to 140° F; and model 198, with a single range from 60 to 90° F. All are battery operated for portability and will operate continuously for 500 hr. Each instrument has provision for reference-temperature or wet or dry-bulb readings. Use can be with various sensing element arrangements. Made by **Beckman & Whitley, Inc.,** 934 E. San Carlos Ave., San Carlos, Calif.

For more details circle NED-446 E4 on enclosed inquiry slip

NOW...get new, reinforced

NU-TEX

DEPRESSED CENTER
DISK WHEELS

FOR FASTER, SMOOTHER CUTTING, roughing and grinding. Special, built-in resiliency provides smooth, cushioned cutting action . . . reduces bouncing . . . holds wheel in close contact with work. Cushioned action distributes pressure evenly . . . makes every inch of surface travel an inch of productive cutting . . . speeds up work with either portable or bench-type grinders.

FOR LONGER LIFE . . . LESS DOWNTIME. Bonded together with an extremely tough resin for added durability. Textile reinforcement provides maximum on-the-job safety . . . extra protection against breakage . . . longer life under continuous operation.

FOR A WIDE SELECTION . . . PROMPT SERVICE. Nu-Tex Depressed Center and Straight Disk Wheels are now available in popular diameters and thicknesses for all types of finishing. Grades range from 0 (hard) to 6 (soft). Write for complete details. Atlantic Abrasive Corp. 504 Pearl Street, South Braintree 85, Mass.

ATLANTIC ABRASIVE CORP.
South Braintree 85, Massachusetts

For more details circle NED-447 E4 on enclosed inquiry slip

NEW DUNHAM CIRCULATORS

simple to install and service

You can quickly install this new, lightweight Dunham Circulator in any horizontal or vertical supply or return hot water line . . . with few tools . . . and with no fear of being "called back" to check performance.

Dunham Circulators have specially selected brand name motors that assure quiet, vibration-free pumping. Automatic overload protection is built in. Extra-large, wool-packed oil reservoir.

Dunham's single spring motor-pump coupling greatly simplifies servicing. Routine maintenance of carbon rotary seals can be easily handled in the field.

Standard and High Head Capacity Circulators fully cover most heating and/or cooling requirements.

WRITE FOR BULLETIN NED-5

DUNHAM HEATING SYSTEMS AND EQUIPMENT
Quality First for Fifty-one Years

C. A. DUNHAM COMPANY, 400 W. Madison St., Chicago 6, Illinois

For more details circle NED-448 E4 on enclosed inquiry slip

REEVES *Fractional HP*

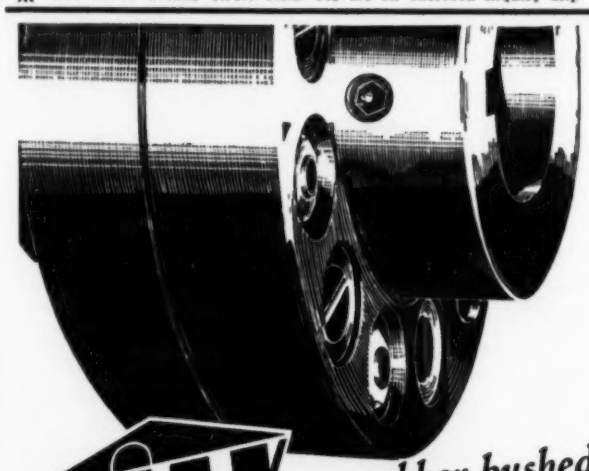
Vari-Speed Motodrive with **10:1** *speed range. Completely new design! Check all these Reeves extras!*

1. Speeds from 3 to 4660 rpm. Speed ranges to 10:1.
2. New "all-position" 14-turn handwheel control.
3. New "full-vision," sealed speedial indicator.
4. New horizontal or vertical down output shaft.
5. New spiral groove lubrication.
6. 112 different assemblies to choose from.

Send today for complete details and new catalog. Specify NDS-M543

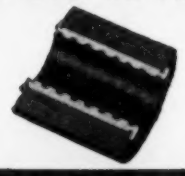
REEVES PULLEY COMPANY • COLUMBUS, INDIANA

For more details circle NED-449 E4 on enclosed inquiry slip



AJAX *rubber bushed* **FLEXIBLE COUPLINGS**

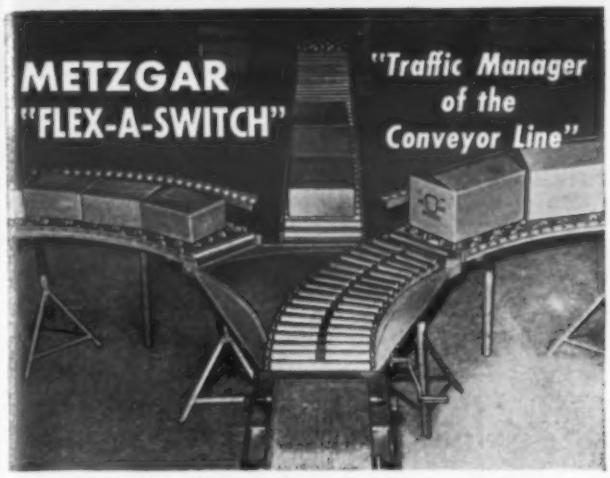
Standard of Industry For Over 30 Years



Safeguard bearings, gears, armatures, impellers and other costly working parts. Combine positive drive with resilient flexibility. Write for catalog.

AJAX FLEXIBLE COUPLING CO. INC.
Incorporated 1920
WESTFIELD, NEW YORK

For more details circle NED-450 E4 on enclosed inquiry slip



Gets maximum efficiency from your conveyor system.
Ideal for switching production lines to various machines for isle system warehousing, assembling orders and all gathering and distributing uses.

Standard Widths: 11½", 15", 18"
Through & 45° R & L.
Spur Switch: 45° R. or L. & Through.

May be furnished with electric or pneumatic Remote Control.
● WRITE FOR PRICES ●

METZGAR CONVEYOR CO.
416 Douglas N. W.
MFRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES
GRAND RAPIDS 4, MICH.

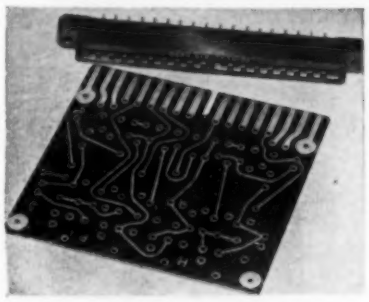
▲ For more details circle NED-451 E4 on enclosed inquiry slip ▲

HOSE COUPLINGS
13 new sizes in reusable line

Additions to line of reusable type Hozelok fittings eliminate need for reducers in many combination size connections when diameter reduction from hose to tubing is desired. Availability of the 13 additional sizes will minimize design problems. Industrial hose couplings conform to SAE hose fittings standards and applicable specifications of JIC hydraulic standards. Fittings in line are suited for low, medium and high pressure installations. Made by **Parker Appliance Co.**, Dept. NE, 17325 Euclid Ave., Cleveland 12, O.

▲ For more details circle NED-453 E4 on enclosed inquiry slip ▲

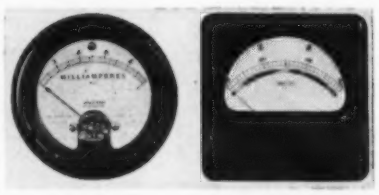
PRINTED CIRCUIT CONNECTOR
provision for 6 to 22 contacts



Made of compression molded melamine for high dielectric and mechanical strength, this receptacle connector has 6, 8, 10, 12, 15, 18 or 22 contacts to receive printed circuit cards. Contacts are of spring tempered beryllium copper, gold plated over silver for ease of soldering and corrosion resistance. Design provides positive mating of connector with printed circuit cards of from 0.060 to 0.071-in. thickness. Breakdown at sea level is 2500 v rms and at 60,000 ft is 700 v rms. Made by **Gorn Electric Co.**, 889 Main St., Stamford, Conn.

▲ For more details circle NED-454 E4 on enclosed inquiry slip ▲

PANEL INSTRUMENTS
complete line available



Complete line of Custom panel meters is designed for applications not subject to extreme shock and meets JAN-I-6 and MIL-M-6A specifications. Available in alternating and direct current voltages in 1½, 2½, 3½ and 4½-in. sizes, meters have interchangeable round or square bezels and front or rear zero adjustments. Optional mirror scales are among other features. Made by **Phaostron Co.**, Dept. NED, 151 Pasadena Ave., South Pasadena, Calif.

▲ For more details circle NED-455 E4 on enclosed inquiry slip ▲

Remove Scale, Rust, Dirt, Paint by Blast Cleaning

— on bridges, tanks, buildings, hulls, structural metal, sheets and plates—with this Pangborn Blast Cleaning Machine.

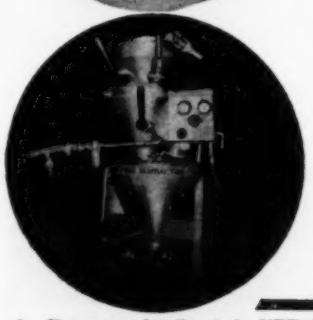
Six types, stationary or portable, deliver efficient, low-cost maintenance in any plant. $188 and up.

For details, write: PANGBORN CORP.
2400 Pangborn Blvd., Hagerstown, Md.

Pangborn BLAST CLEANS CHEAPER
with the right equipment for every job
Pangborn's 50th Anniversary 1904-1954

▲ For more details circle NED-452 E4 on enclosed inquiry slip ▲

OPERATE YOUR OWN
BONDACTOR CONCRETE GUNNING EQUIPMENT



Save Money On All These Jobs
★ Restoring concrete and other masonry
★ Steel encasement
★ Tank lining
★ Parget coating
★ Waterproofing
★ Refractory and insulation applications
★ Sandblasting and dozens more maintenance and construction projects.

We train your personnel under actual job conditions. For complete facts on how a BONDACTOR can pay off for you, *write today!* State intended uses and materials to be gunned.

Air Placement EQUIPMENT COMPANY
1008 West 24th St.
Kansas City 8, Mo.

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6 STEPS to GREATER ABRASIVE SAVINGS

There are 6 important reasons why abrasive blast cleaning costs have hit a new low with the introduction of Wheelabrator Steel Shot. Combining high hardness with long life, this electric furnace steel shot not only cleans faster but lasts longer than other abrasives. It provides greater coverage, insures uniform results and cuts maintenance costs. It has the plus features of 50 lb. carton packaging and palletized shipments to save handling time and storage space. Send today for Bulletin 89-A for the full story.

American WHEELABRATOR & EQUIPMENT CORP.
WHEELABRATOR STEEL SHOT
508 S. Byrkit St., Mishawaka, Indiana

▲ For more details circle NED-457 E4 on enclosed inquiry slip ▲

Drive out FOUL AIR *Blow in* FRESH AIR *with Coppus Type A Ventilator*

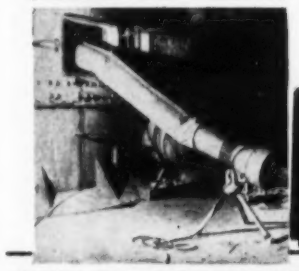
Assure greater safety, comfort for workers . . . get greater efficiency.

Drive out dangerous fumes, gases, stagnant or hot air from boilers, cable manholes, tanks, vats and other confined places. *Supply fresh air continuously.*

Send now for further information. Coppus Engineering Corporation, 405 Park Avenue, Worcester 2, Mass.

◀ MANHOLES made safe for workers' entrance within minutes.

◀ BOILER AND TANK INTERIORS cooled by Coppus. Fresh air supplied continuously.



ANOTHER COPPUS "BLUE RIBBON" PRODUCT

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ELASTIC STOP NUT CORPORATION OF AMERICA
Dept. R17-537, 2330 Vauxhall Road, Union, N. J.

Please send me free design information on

ROLLPIN TRADE MARK

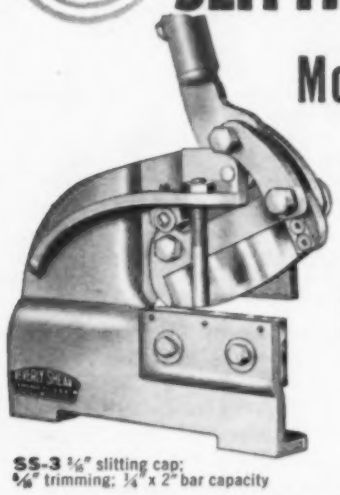
. . . the slotted tubular steel pin with chamfered ends used for production economies in replacing

☐ a rivet ☐ a set screw
☐ a hinge pin ☐ a bolt and nut
☐ a stop pin ☐ a cotter pin
☐ a taper pin ☐ a dowel

NAME_____ TITLE_____
FIRM_____
STREET_____
CITY_____ ZONE_____ STATE_____

▲ For more details circle NED-459 E4 on enclosed inquiry slip ▲

NEW Beverly SLITTING SHEAR



More Power... Easier Cutting
Exclusive Design Cleaner Cuts
Ruggedly Built last a lifetime
Capacities to 3/16"

SS-3 3/16" slitting cap; 5/16" trimming; 1/4" x 2" bar capacity

Get faster, easier slitting and trimming with a new design Beverly "SS" Series Slitting Shear. Rigid, strongly braced frame; compounded linkage and extra strength where needed. Many exclusive features. Write for FREE illustrated Bulletin.

See your Beverly Distributor today. Ask for a demonstration—no obligation.

Beverly SHEAR MFG. CO.
3016 W. 111th STREET • CHICAGO 43, ILLINOIS

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ELCO SCREWS

ELCO SCREWS ARE GOOD SCREWS

WOOD SCREWS
MACHINESCREWS
MACHINE SCREW NUTS
TAPPING SCREWS
THREAD-CUTTING SCREWS
PHILLIPS AND SEMS SCREWS
PIPE PLUGS
STOVE BOLTS
CAP SCREWS
LAG SCREWS
DRIVE SCREWS
SPECIAL SCREWS
COLD HEADED PRODUCTS

ELCO TOOL AND SCREW CORPORATION
1946 BROADWAY • ROCKFORD, ILLINOIS

▲ For more details circle NED-461 E4 on enclosed inquiry slip ▲

GATE TYPE STACKING PALLET
handles upright cylindrical shapes

Comparatively light but substantial, stacking pallet for handling cylindrical shapes that stand on end has formed strap legs. Angle iron used in frame extends up from feet to form side supports 28-in. high with horizontal and vertical intersecting cross members. Hinged cross arms which drop out of way for loading can be raised and hooked on studs joining the side supports and enclosing the load. Hardwood floor is used, and access is provided for lift truck handling from four sides. Various under clearances and side support heights can be incorporated to meet special requirements. Made by **Equipment Mfg., Inc.,** 21566 Hoover Rd., Detroit 5, Mich.

▲ For more details circle NED-462 E4 on enclosed inquiry slip ▲

WEDGE VISE
holds up to 1½-in. thick stock

Three screws fasten this No. 1240 wedge vise to a work bench to provide a quick setup for sawing, planing, shaving, chiseling, driving screws or drilling. Vise consists of heavy gage steel wedge-shaped base and hard maple block with a "hooked" end for wedging stock into working position. It will hold stock from paper-thin up to 2½ in. thick. Made by **Stanley Tools,** 104 Elm St., New Britain, Conn.

▲ For more details circle NED-463 E4 on enclosed inquiry slip ▲

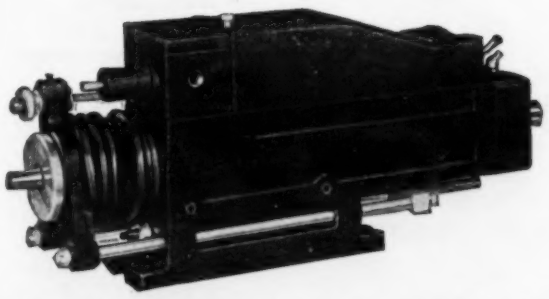
Earthmoving Equipment

Allis-Chalmers Mfg. Co., Tractor Div.—Complete line of A-L industrial and earthmoving equipment is illustrated and described in this 36-page catalog MS-450. Crawler and wheel tractors, scrapers, graders, pull type scrapers and other units are covered. The HD-15 crawler tractor has choice of standard transmission or hydraulic torque converter.

▲ For more details circle NED-464 E4 on enclosed inquiry slip ▲

Bellows-Locke DRILL UNIT

Combines Hydraulic Feed
Air Powered Rapid Advance
Electrically Driven Spindle



Full 3" stroke—any part usable. Takes up to 5/16" drills. Either pulley driven or direct motor drive models available. Compact, streamlined, lightweight Can be mounted at any angle in any plane. Any number of units can be easily synchronized and interlocked for accurately timed sequence operation.

Write for Bulletin BL-5 Address Dept. NED 554

The Bellows Co.
AKRON 9, OHIO
In Canada: Pneumatic Devices of Canada, Ltd., Toronto, Ontario

910A

▲ For more details circle NED-465 E4 on enclosed inquiry slip ▲

NEW!

Manifold equipped with five simultaneous, instantaneous-acting cylinders.

"Helping Hands" for Hundreds of Jobs!

Now . . . miniature pneumatic cylinders . . . smaller than your fingers, with power to do hundreds of activating, holding, control, or feeding jobs. In electrical or mechanical testing, assembly, control, holding or work feeding setups . . . operated automatically or by foot valves . . . they help you produce better products, faster at lower cost by supplying workers with extra fingers and hands!

The Clippard Miniature Pneumatic Cylinder is just 2¾" long x ⅞" diameter with maximum ½" stroke and spring return; operates from air line on as little as 12 psi. 12-port manifold and complete line of fittings available.

Illustrated literature, including power and static data, dimensional drawings, specifications and price list . . . free on request by writing.

Clippard INSTRUMENT LABORATORY, INC.
7390 Colerain Road, Cincinnati 24, Ohio
Manufacturers of R. F. Coils and Electronic Equipment

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It's practically WATER-WHITE a NEW chemically resistant baking finish— DURACHEM

For all types of metal products from heavy hardware to fine jewelry

A new baking type synthetic finish—DURACHEM—combines unusual clarity with a high degree of chemical resistance. Almost water-white—remains clear after exposure to heat and sunlight—resists salt spray and perspiration. Available in colors too.

Samples and technical literature on request

PIONEERS OUR 78th YEAR M&W.Co 1876 IN PROTECTION
MAAS & WALDSTEIN CO. 2116 McCARTER HIGHWAY NEWARK 4, NEW JERSEY
Midwest Div. 1658 Cortell Ave., Chicago 12, Ill.
Pacific Coast Div. Smith Davis Co., 10751 Venice Blvd., Los Angeles 34, Calif.
MANUFACTURERS OF INDUSTRIAL FINISHES

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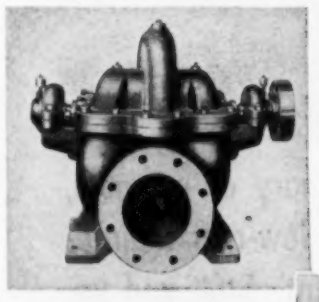
DE LAVAL

makes single and two-stage pumps for a wide range of applications



De Laval Single Stage Centrifugal Pumps are available in both single and double suction designs . . . offer many important design features. Sizes range up to 14" suction and 12" discharge. Write for Bulletin 1002.

De Laval Two-Stage Horizontal Pumps are designed for long, highly efficient service. Capacities range from 75 to 3,000 gpm, sizes from 2" to 8" discharge, heads to 750 feet. Write for Bulletin 1501.

DE LAVAL STEAM TURBINE COMPANY
808 Nottingham Way, Trenton 2, New Jersey

DL 251

▲ For more details circle NED '68 [illegible] on enclosed inquiry slip ▲

KODAK SIGNET 35 CAMERA—the ideal 35mm. camera for most photographic needs.

Easy-to-use camera for hard-working pictures

You'll find it easier to train . . . to demonstrate . . . to illustrate technical talks . . . and do countless other important jobs with 35mm. slides and prints. Job setups, breakage claims, safety hazards, research results, maintenance data—all can be photographed for study, circulation, and reference. And with a camera small enough to slip into your pocket for use as you walk through the plant.

The Kodak Signet 35 Camera has all the advanced features you need for taking quality industrial photographs. Yet it's as compact and easy to operate as your family snapshot camera. A coupled rangefinder takes the guesswork out of focusing—three simple settings with handy finger-tip controls make accurate operation a snap. Sensibly priced at $92.50, including Fed. Tax.*

WRITE FOR FREE BOOKLET on Kodak Signet 35 Camera.

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

**Price quoted is subject to change without notice.*

For more details circle **NED-469 E4** on enclosed inquiry slip.

REVOLVATOR GO-GETTER Lift Efficiency

Door-To-Door Warehouse Handling Efficiency

For the efficient flow of goods within and without a plant—from production to storage—to shipping—there is no lift truck on the market today that surpasses the Revolvator Go-Getter line.

Illustrated above is the high lift model Go-Getter—a favorite of the food producers—accepted throughout all industry. In 2000-3000 lb. capacities—remarkably adept in narrow aisle work, the Revolvator Go-Getter high lift truck permits great economies in warehousing.

Write for the full facts today.

REVOLVATOR CO.
8732 Tonnele Ave. North Bergen, N. J.

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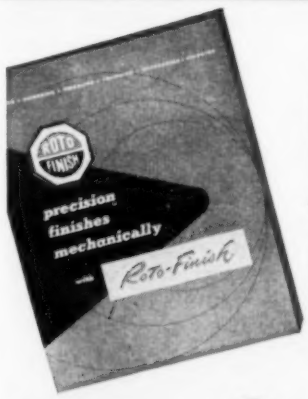


Send for this New, Free Catalog Today!

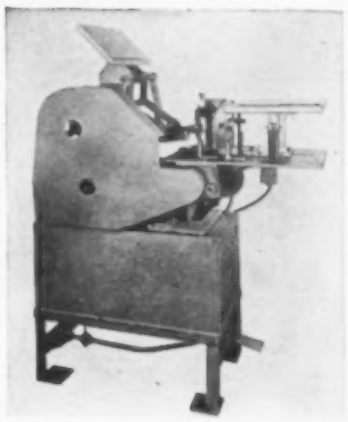
Learn How *Roto-Finish* Can Solve Your Finishing Problems at Lower Costs

Here's a new, fully illustrated catalog that shows you how you can improve the surface of your products at lowest costs with Roto-Finish, an original precision tumbling process. Learn how you can save money and manpower with Roto-Finish's wide choice of machines, equipment and materials that combine with Roto-Fnish's Engineering Service and "know-how" to give you a practical solution to your finishing problems. Prove it to yourself. *Write for your free copy today.*

Roto-Finish COMPANY
associated with The Sturgis Products Co.
3702 Milham Rd., Kalamazoo, Mich., P. O. Box 988, Ph. 3-5578
ORIGINATORS OF THE ROTO-FINISH PROCESS

For more details circle **NED-471 E4** on enclosed inquiry slip

MARKING MACHINE marks small cylindrical objects



An automatic cycle is provided by model 45AF printing machine designed to mark small articles such as resistors, condensers, capacitors, and subminiature electronic tubes with such information as trade name or specifications. Chute feed is easily adjusted to handle items up to 2½ in. long by ¾-in. OD. Machine automatically adjusts for any variation in a given diameter and has automatic print, feed and eject cycling. It operates at up to 60 imprints per minute. Type adaptor provides for easy change in printed copy. Made by **Markem Machine Co.**, Dept. C, 150 Congress St., Keene 40, N. H.

For more details circle **NED-472 E4** on enclosed inquiry slip

HARDNESS TESTER for highly finished parts

Designed for testing hardness of small, highly finished or electroplated parts, portable bench type hardness tester combines a positive controlled diamond penetrating action with a 400X microscope. Microscope is swung directly over the minute impression to read hardness by measuring with a reticule scale and vernier graduated in increments of 0.0005-mm. Instructions and tables are furnished for converting readings into Rockwell and other standard scales. Coarse impressions such as Brinell ball test can be measured using the coordinate measuring stage. Distributed by **George Scherr Co.**, Dept. NED, 200 Lafayette St., New York 12, N. Y.

For more details circle **NED-473 E4** on enclosed inquiry slip

Circularity Grinding Attachment

Detroit Reamer & Tool Co.—12-page illustrated brochure contains description, specifications and other data on a motor driven circularity grinding attachment which simultaneously revolves the work to be ground and moves it longitudinally back and forth. Standard spacer gears provide indexing for 2, 3, 4, 6, 8 or 12 flutes.

For more details circle **NED-474 E4** on enclosed inquiry slip

PREVENT BURNS!

SWIVELIER *Adjustable*

COOLITES

STAY COOL
Using 100-Watt Lamp

"NEVER GETS TOO HOT TO HANDLE"

"Stays Put . . . At Any Angle!"

LOCKED-IN SPRING-TENSION PREVENTS DROPPING DOWN OR WORKING LOOSE.

EXTRA FEATURE! Easily removable switch cuts maintenance costs.

FOR USE ON:
- lathes
- millers
- drill presses
- other machine tools
- assembly benches
- inspection tables
- desks
- drafting boards
- business machines

• ALL WIRES ENCLOSED

UNIVERSALLY ADJUSTABLE

• For full details on Coolites, fluorescent and incandescent "Dextra-Lites" and other fine Swivelier Industrial Lighting Units

Write: Dept. NE5 for Bulletin 134.

SWIVELIER COMPANY, Inc.
43—34th St., Brooklyn 32, N. Y.
Showroom: 30 Irving Place, New York, N. Y.

For more details circle **NED-475 E4** on enclosed inquiry slip

INDIVIDUAL VULCANAIRE DUST COLLECTING UNITS

Are used on surface and other grinders where grinding dust must be removed.

Inexpensive, compact units, with no moving parts. Operated from your present air supply.

Installed in a few minutes, eliminating need for costly centrally located dust collecting systems.

The collector element is mounted on the side of the machine. Quickly cleaned, requiring no refills.

Vac-suction pick-up device (vacuum nozzle) is mounted on the grinding wheel guard or close to grinding wheel on other applications. This mounting permits constant contact with dust as the wheel is moved up or down.

A simple needle valve operates the unit, and can be shut off whenever the machine is not in use.

Available in 700 series for grinding wheels 7" dia. or less.

Made by the makers of Vulcanaire *The* jig grinding attachment.

Write on your letterhead for "Dust Collector" Booklet.

VULCAN TOOL CO.
737 Lorain Dayton 10, Ohio

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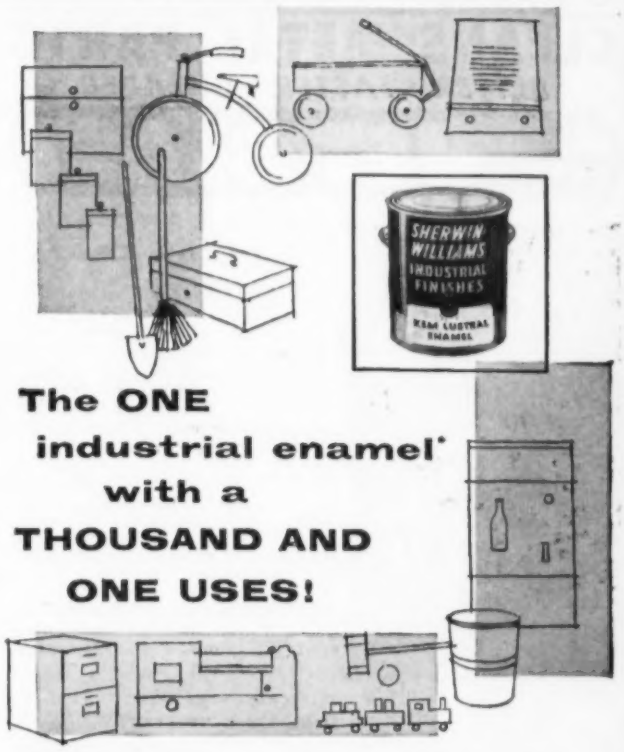

The ONE industrial enamel with a THOUSAND AND ONE USES!

KEM LUSTRAL®

You name the product! If brilliant, enduring COLOR can help to sell it or protect it, it's ten to one KEM LUSTRAL can do it *better*—and simplify your buying, stocking and finishing, too!

KEM LUSTRAL is the special quality Sherwin-Williams enamel formulated especially to meet the widest possible range of industrial requirements. KEM LUSTRAL can be brushed, sprayed or dipped. It can be air dried or baked. It can be used inside or out—as a product finish or for maintenance. And KEM LUSTRAL is stocked, ready for your call, at local Sherwin-Williams Branches in every principal city in the United States!

Check what KEM LUSTRAL can do for you! Call your nearby S-W Branch or mail the coupon for details and color card.

SHERWIN-WILLIAMS
INDUSTRIAL FINISHES

Other S-W Industrial Finishes
- ☐ Furniture Finishes
- ☐ Dimenso® (Hammered)
- ☐ Industrial Lacquer
- ☐ Fast Bake Enamel

The Sherwin-Williams Co.
General Industrial Division, Cleveland 1, Ohio
Please send details on KEM LUSTRAL—also on other items checked.

NAME _____
COMPANY _____
ADDRESS _____

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LEVIN® MICRO-DRILL PRESS

FOR VERY SMALL HOLES DOWN TO .002

Designed to hold small drills in precision collets, thus overcoming the difficulty of making a drill run true as when held in a conventional drill chuck. Absence of a sliding quill guarantees maximum sensitivity with fingertip control. A mounted ⅛" capacity chuck can also be used.

Send for Catalog L describing Micro-Drill Press, full range of collet sizes, accessories and other precision tools

LOUIS LEVIN & SON, INC., 3610 South Broadway, Los Angeles 7, Calif.

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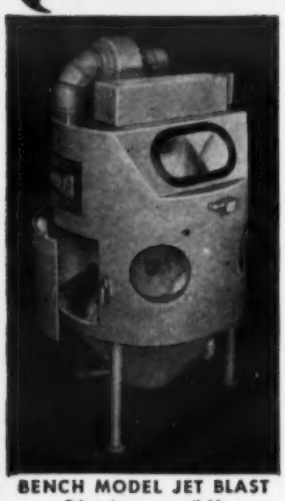
CLEANS METAL PARTS

BETTER • FASTER • CHEAPER

NEW LOW COST BENCH MODEL JET BLAST



BENCH MODEL JET BLAST
Other sizes are available

SAVES UP TO 60% IN LABOR COSTS

JET BLAST REMOVES Rust, scale and Foreign Deposits from Dies, Molds, Tools or other precision articles without dimensional alterations. Increases adherance and bonding qualities of paint, porcelain, rubber, electroplated metals and a host of other materials . . . Equally effective for cleaning threads for close, smooth fit.

JET BLAST will give any desired finish on flat or irregularly shaped objects . . . Sharp edges are retained.

JET BLAST is excellent for light burring on hard to-get-at surfaces.

JET BLAST materially increases tool life when used for honing cutting faces after grinding . . . Eliminates costly hand labor.

JET BLAST IS A TOOL ROOM NECESSITY

SEND FOR BULLETIN

DISTRIBUTORS: A few territories are still open.

R·W·RENTON and Company

877 ADDISON ROAD • CLEVELAND 3, OHIO

For more details circle NED-479 E4 on enclosed inquiry slip

REMEMBER, MERLIN, WAND WAVING IS STRICTLY HOCUS POCUS!

No, not even a magician can make good on the fantastic claims attributed to cheaper solders, *the mystery alloys with a secret ingredient*, that are supposed to equal the performance of higher tin content solders. What really counts is the quality of the soldered connection . . . something you can always maintain with Kester Solder!

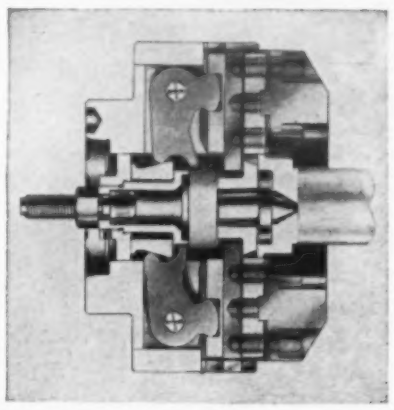
FREE! *Kester Technical Manual, "SOLDER and Soldering Technique." Write today for your copy!*

KESTER SOLDER COMPANY

4249 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

For more details circle NED-480 E4 on enclosed inquiry slip

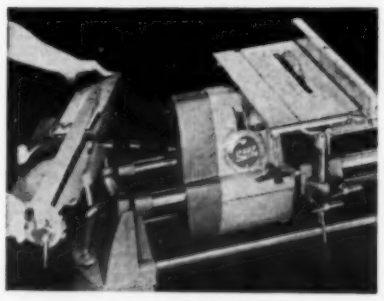
COMPENSATING CHUCK holds irregular pieces



Rough forgings, out-of-round castings or finished pieces with irregular gripping surfaces can be held by this power operated compensating chuck. A cam and lever arrangement forces the jaws to grip the work securely with equal gripping pressure on each jaw. Body of chuck is a one-piece steel casting or special aluminum forging. All parts are heat treated alloy steels. Solid center (as shown) is furnished for easy removal, but spring loaded centers are available. Models are manufactured in American Standard and serrated two and three-jaw models in 8, 10, and 12-in. sizes. Made by **S-P Mfg. Corp.**, Dept. N, 12415 Euclid Ave., Cleveland 6, O.

For more details circle NED-481 E4 on enclosed inquiry slip

ALL-PURPOSE WOODWORKING TOOL works as power saw, sander, drill press, lathe and horizontal drill



Delivered fully assembled, this Shopsmith Mark 5 all-purpose woodworking tool is ready to plug in and work as a power saw, sander, drill press, lathe and horizontal drill. Automatic drive is completely enclosed. Correct speed for each operation is easily set by turning Speed-Dial. Safety factors include mounting of controls on front of machine and a switch protected by wings, making it easy to knock switch off, but impossible to bump it on accidentally.

A ¾-hp motor and 9-in. saw enables machine to handle heavy framing lumber or big plywood, while built-in accuracy facilitates doing fine cabinet work. The Shopsmith can also serve as power source for jointer, jigsaw and bandsaw accessories. These tools simply plug into the Shopsmith, and a single Allen screw connects flexible coupling to special spindle provided for that purpose. This Power Mount accessory system also provides variable speeds and permits simultaneous operation of saw and jointer, jigsaw and sander and other related tools, at proper relative speeds. Made by **Magna Engineering Corp.**, Dept. NED, 110 Linfield Dr., Menlo Park, Calif.

For more details circle NED-482 E4 on enclosed inquiry slip

ELASTICONE® GUIDE PIN COVERS

CUT DIE COSTS 25%

Low-costing Elasticone Guide Pin Covers reduce die breakage; protect man & machine — closes the gap between pins and bushings.

Just snaps into place—no installation costs. Manufactured in stock sizes.

Write for full information and literature.

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CENTRAL SAFETY EQUIPMENT COMPANY

For more details circle NED-483 E4 on enclosed inquiry slip

Dependable MEASURING & CHECKING EQUIPMENT

BOX PARALLELS. In 15 sizes, ranging from 3 x 4 x 12 and up.

SURFACE PLATES Over 50 sizes, ranging from 7 x 7½ to 96 x 192.

SLOTTED ANGLES In 19 sizes, ranging from 4 x 9 x 5 and up.

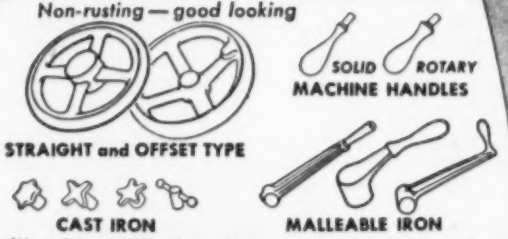
UNIVERSAL ANGLES In 10 sizes, ranging from 4 x 3¾ x 5 and up.

and Now HAND WHEELS, KNOBS, HANDLES

Send for Complete Catalog

Cadmium Plated READY TO DELIVER

Non-rusting — good looking



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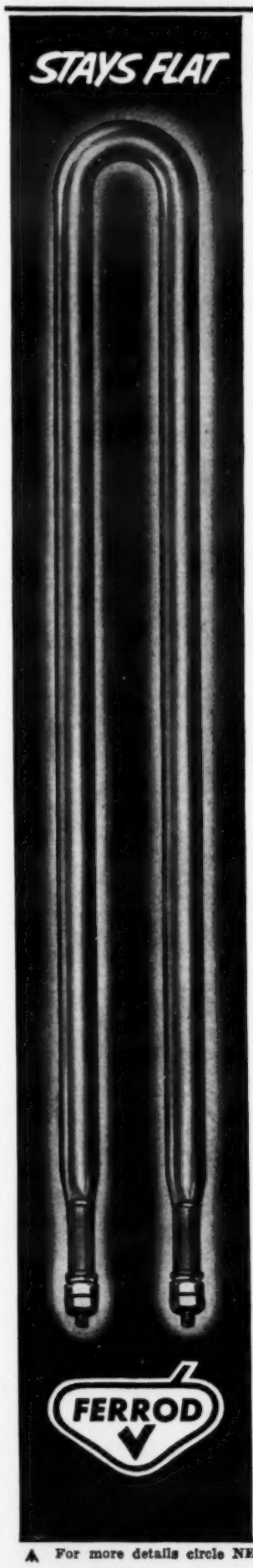
CAST IRON MALLEABLE IRON

We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION

6771 E. McNichols Rd. Dept. B Detroit 12, Mich.

For more details circle NED-484 E4 on enclosed inquiry slip



LASTS LONGER!

FERROD'S NEW HEAVY-DUTY STRIP HEATERS

Made in *three* over-all widths (from 2⅝" to 5⅝"), these new "U" shape units may be used singly or "nested" and provide the "best bet yet" for dependable electric heating under heavy duty conditions.

•

As in other Ferrod *rod-type* heaters, the nickel-chromium resistor elements are precisely located, insulated with magnesium oxide, then flattened under tremendous pressure—forming a broad, flat heating surface with a reinforcing "spine" up the back.

•

Available with *mild steel* or *Inconel* sheath, these units cover a wide range of applications, the Inconel being particularly corrosion resistant and operating at sheath temperatures up to 1500° F.

•

Heating surface of rod is ⅝" wide, providing fast response in heating, also permitting close control of temperatures when desired.

•

Made in a wide range of sizes and wattages, Ferrod HD Strip Heaters can be safely operated in series on supply voltages of 480 volts.

•

For further details and complete specifications on standard units quickly available, write

FERROD MFG. CO.
607 N. River St.
Batavia, Illinois

Subsidiary Rexnord Corporation

For more details circle NED-485 E4 on enclosed inquiry slip

Work with suspensions? mud? paint?

TEST • STUDY • CONTROL
VISCOSITY
As Simply, Quickly and Easily as Taking Temperature Readings

WITH A **Brookfield** SYNCHRO-LECTRIC **VISCOMETER**

Adaptable to any problem from less than one to 32,000,000 centipoises. Send for illustrated catalog.

Just a flick of a switch, then read the Brookfield dial, and you have your viscosity determination in centipoises. The whole operation, including cleaning up, *takes only a minute or two.*

Available in a variety of models suitable for extremely accurate work with both Newtonian and non-Newtonian materials, Brookfield Viscometers are portable and plug in any A.C. outlet. *Write today.*

A Pittsburgh manufacturer working with latices and paints reports: "Our Brookfield Viscometer has been a very definite time and labor saver and has enabled closer control of materials having very wide viscosity range."

Write Dept. O., Stoughton, Mass.

BROOKFIELD ENGINEERING LABORATORIES, INC.

For more details circle NED-486 E4 on enclosed inquiry slip

The All New MOBILIFT 4000 Pounder

Has *Everything* You Want in a "Sit-Down" FORK LIFT TRUCK

MODEL D-424
4,000 lbs. capacity at 24" Load Center
83" hydraulic mast lift height 108"

Check these trend-setting features . . .

- CHRYSLER 65-bhp 6 cyl. GAS ENGINE.
- CHRYSLER GYROL FLUID COUPLING.
- MOBILIFT CONSTANT-MESH TRANSMISSION with a Push-Pull Lev-R-Matic Control for forward and reverse —No Clutch Pedal—No Gears to Shift—2 speeds forward, 2 reverse.
- MOBILIFT FULL-FLOATING DRIVE AXLE.
- BALL-BEARING WORM & NUT TYPE STEERING.
- HYDRAULIC BRAKES.
- EASY TO GET ON AND OFF—NO OBSTRUCTIONS.
- FREE ACCESS FROM LEFT OR RIGHT SIDE.
- ONE-PIECE HOOD RAISES FOR EASY SERVICE ACCESSIBILITY.

Write for complete details

LAMSON MOBILIFT CORP.
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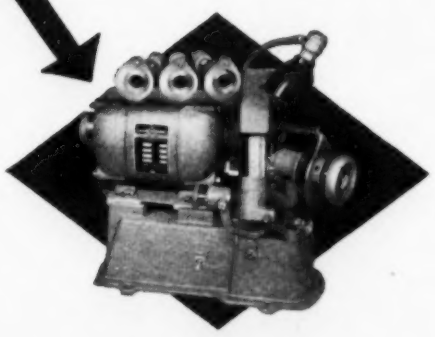
2317 W. 18TH, CHICAGO • 730 PATTERSON, E. RUTHERFORD, N. J.
2724 TAYLOR STREET, DALLAS • 2730 SAN PABLO AVE., BERKELEY
1113 SPRING STREET, N.W., ATLANTA

For more details circle NED-487 E4 on enclosed inquiry slip



SHARPENS SMALL DRILLS ACCURATELY — WITHOUT SKILL!

The *Black Diamond Drill Grinder* is the only drill grinder so fast and easy to operate. Used regularly by thousands! Enables anyone to grind small drills to absolute accuracy.

- Exclusive "positive positioning" assures precision grinding.
- No skill required by operator.
- Both lips ground in one operation.
- Web thinning made easy with special attachment.

Get all the details! Send for folder.

BLACK DIAMOND SAW & MACHINE WORKS, INC.
72 North Ave., Natick, Mass. OLympic 3-4480

For more details circle NED-488 E4 on enclosed inquiry slip

CLEAR-SPAN BUILDING

40-ft clear span without columns is lengthened in 20-ft sections

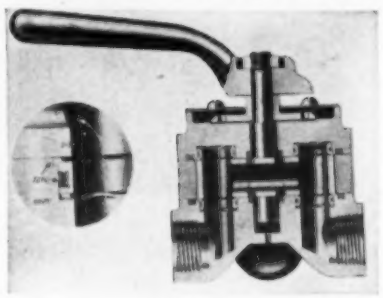
An all steel structure of any length with a 40-ft clear span without columns and a 14-ft clearance to the eaves can be erected by joining 20-ft bay lengths of this rigid frame building. Clip-and-wedge sheet attachment methods simplifies erection and eliminates need for holes through the sheets. Clip allows attachment of 24-in. hardboard insulation to roofing or side walls with an air space between it and the outside wall.

Sides and roof are covered with 24-gage galvanized box-corrugated sheets. Doors with a 20 x 14-ft clear opening height can be located at any side bay or centered in the end. Plain or glazed 3 x 7-ft access doors are available and windows can be located in either the upper or lower half of sides or ends. Box-corrugated plastic roof sheets can be installed to obtain interior light. Made by **United Steel Fabricators, Inc.**, 335 Gasche St., Wooster, O.

For more details circle NED-489 E4 on enclosed inquiry slip

HYDRAULIC SELECTOR VALVE

handles pressures up to 6000 psi



Selector valve is capable of handling pressures up to 6000 psi. Low turning torque is result of design which eliminates directional fluid pressure on the port selecting disk and causes it to "float" in its chamber. Highly finished parts and O-rings eliminate internal leakage. Valve is available ported as desired with side or bottom pipe tap and sub-plate mounting. Sizes of 3/8 to 1 in. are available for 0-2000 psi and 1/8 to 1 in. for 0-6000 psi are available for most services. Air and gas service units are available for 0-1000 and 0-3000 psi respectively. Made by **Republic Mfg. Co.**, 1928 W. 77th St., Cleveland 2, O.

For more details circle NED-490 E4 on enclosed inquiry slip

Laboratory Planning

Scientific Apparatus Makers Association—Revised edition of "Better Laboratory Planning" is a 23-page well-illustrated brochure which carries a comprehensive approach to the planning of various types of laboratories. Section on recommended bidding practices is included.

For more details circle NED-491 E4 on enclosed inquiry slip

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- Conveys merchandise in hampers, crates, boxes, baskets with casters or wheels attached.
- All steel construction.

Manufactured in different lengths, widths, and capacities to meet your individual requirements.

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We also manufacture the famous floor-to-floor space-saver and the ship-loader all steel conveyors.

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201-203 WATER STREET • BINGHAMTON, N. Y.

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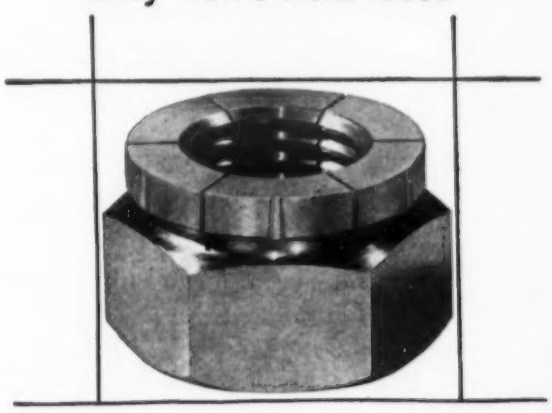
WITH YOUR MONEY

There's a wealth of engineering experience in each R & M *JC* hoist, yet prices start at just $188.00. Big hoist features; unit cast aluminum alloy frame — Weston-type load brake — upper and lower limit switches — heat treated gears and shafts — R & M hoist motor — sealed ball bearings — alloy steel welded link coil chain — forged steel hooks. *Capacities:* 500 to 2,000 lbs. *Speeds:* 34, 17, or 9 f.p.m. *Control:* pendent rope. *Mounting:* hook or Bulldog trolley. For complete details, and address of local distributor, write for Bulletin No. 852. Please mention: NEW EQUIPMENT DIGEST

take it up with **ROBBINS & MYERS, INC.**
SPRINGFIELD, OHIO | BRANTFORD, ONTARIO

For more details circle NED-493 E4 on enclosed inquiry slip

they won't work loose



FLEXLOC Self-Locking Nuts lock and stay tight, no matter how severe the vibration. Yet they can be easily removed and reused repeatedly. They are stop nuts too; they stay put in any position on a bolt when the locking threads are fully engaged. And FLEXLOCS are one piece, all metal—nothing to assemble, come apart, lose or forget. See your local industrial distributor for literature and samples or write STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

FLEXLOC LOCKNUT DIVISION

SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-494 E4 on enclosed inquiry slip

NEW SUBMERSIBLE SUMP PUMP

12½" high
10" dia.
40 lbs.

MODEL 54, bronze fitted, for portable or stationary service—continuous or intermittent duty. 1/3 h.p. motor, G. E. components, has built-in overload protection—sealed motor and switch parts—permanently lubricated bearings. Actuated by reliable automatic heavy-duty controls—no diaphrams. Can be operated manually. Positive priming at all times. Many other features. Wide application.

Added to regular PENBERTHY line

3 models, 7 sizes of automatic electric sump pumps by the oldest and largest producer. Equipped with automatic, trouble-free features. Known for dependability. Write for complete details.

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Division of the Buffalo-Eclipse Corporation
1242 Holden Avenue, Detroit 2, Michigan
Established 1886

There's Certain satisfaction in PRODUCTS BY PENBERTHY

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For more details circle NED-495 E4 on enclosed inquiry slip

5 REASONS FOR CALLING CORDS LTD.
For Cords and Cord Sets

★ Fast delivery on cords of standard construction.
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★ Integrated engineering-production control from rod mill to mold department.
★ Most comprehensive stock of dies and molds for electronic cords and assemblies in existence.
★ Quality proved by use on millions of products.

Write for new 1954 Catalog.

WIRE SX PRODUCTS
CORDS LTD.
DIVISION OF ESSEX WIRE CORPORATION
121 DODGE STREET, DE KALB, ILLINOIS

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WHY AREN'T WE USING Severance CARBIDE HAND FILES?

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YOU, TOO, WILL BE ASKED THIS QUESTION SOONER OR LATER, BETTER CHECK UP BEFORE IT'S TOO LATE!
WE'LL SEND YOU COMPLETE INFORMATION AND PRICES VIA RETURN AIR MAIL!
Phone, wire or write us RIGHT NOW!

Severance TOOL INDUSTRIES INC.
761 Iowa Ave., Saginaw, Michigan

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DURALL-T* TYPE UF
is fully approved for underground feeder

Yes, it can be buried *directly* in the ground. Tough thermoplastic insulation and jacket resist moisture, soil acids, and crushing. *Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y.* *Reg. U. S. Pat. Off. 54441

the right cable for the job

ANACONDA® WIRE AND CABLE

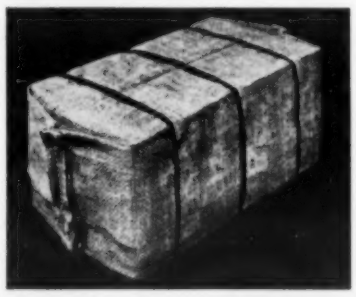
▲ For more details circle NED-498 E4 on enclosed inquiry slip ▲

COIL GRAB
handles coils ½ to 8-in. wide

A 5-to-1 safety factor is built into this B-10 model 1000-lb capacity coil grab designed to handle coils from ½ to 8 in. wide. Operation of semi-automatic, 25-lb grab is simple and requires only one man. Operator places grab within coil and wedges are moved into position under the coil by means of ratchet mechanism. Because grab wedge works from the inside diameter of coil, very little head room is required. Tools are primarily used with crane or hoist, although lift trucks can be used with grab to transport coils. Grabs have rustproof Parkerized finish. Made by **Dixon Automatic Tool, Inc.,** 2302 23rd Ave., Rockford, Ill.

▲ For more details circle NED-499 E4 on enclosed inquiry slip ▲

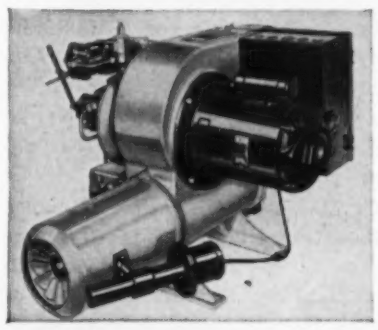
BALE CUPS
have waterproof inner lining



Designed for shipping textiles and other perishable bulk merchandise, bale cups have waterproof inner lining. After goods are packed in the lower portion, the slightly larger top section telescopes over the bottom to form a double protective wall. A variety of adhesives is available to meet requirements. Standard or special sizes can be made by **Chase Bag Co.,** 306 S. Franklin St., Chicago 6, Ill.

▲ For more details circle NED-500 E4 on enclosed inquiry slip ▲

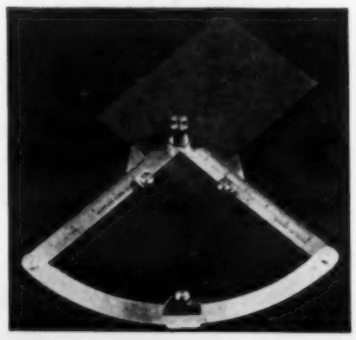
OIL BURNER
low pressure, air atomizing type



Model 4 Hev-E-Oil burner is designed to burn low cost No. 4 or 5 oil without preheating. It is a low-pressure, electric ignition, air atomizing type unit which meets requirements of Underwriters' Laboratories. Packaged burner is ready to install with automatic controls connected and pretested. An oil metering pump supplies the correct amount of oil for any given operating condition. Adjustment can be made for burning oils from No. 1 light to No. 5 heavy. Carbon accumulation and clogging of burner nozzles is eliminated by a self-cleaning feature. Burner cannot be started on high fire. Made by **Cleaver-Brooks Co.,** Dept. NED, 326 E. Keefe Ave., Milwaukee 12, Wis.

▲ For more details circle NED-501 E4 on enclosed inquiry slip ▲

CENTER PUNCH DUPLICATOR
made in 4, 6 and 12-in. sizes



Developed to speed up layout operations, the center punch duplicator makes it possible to use one tool to scribe line to locate holes or points. Sliding feet are set to measurements on scale arms and locked in position. Tool is then placed on material with feet against the sides. An accurate indentation is obtained by hitting the spring-loaded center punch in the housing. Any number of pieces can be given duplicating locations. Device has angular adjustment and will locate the center of round pieces. It is made in 4, 6 and 12-in. sizes, with others on special order. Made by **Hemiga Tool Co.,** 1115 S. Brown Ave., Terre Haute, Ind.

▲ For more details circle NED-502 E4 on enclosed inquiry slip ▲

clean

Honan-Crane
HYDRAULIC OIL PURIFIER
- Removes Solid Abrasive Contamination
- Removes Corrosive Products of Oxidation
- Prevents Sludging
- Keeps Oil CLEAN and SAFE to Use Indefinitely

Sizes for direct connection to individual machines—mobile units for general service

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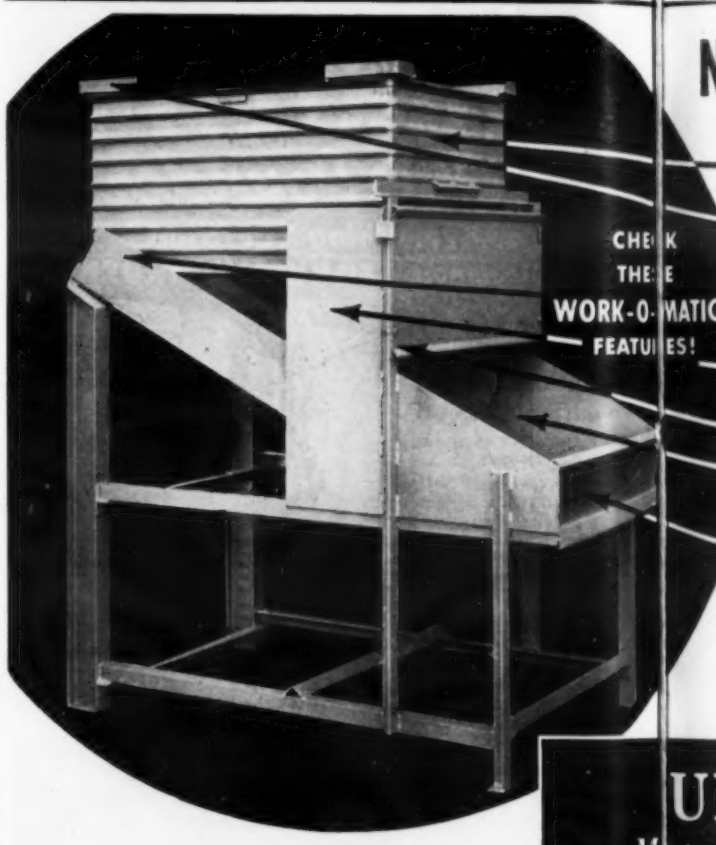
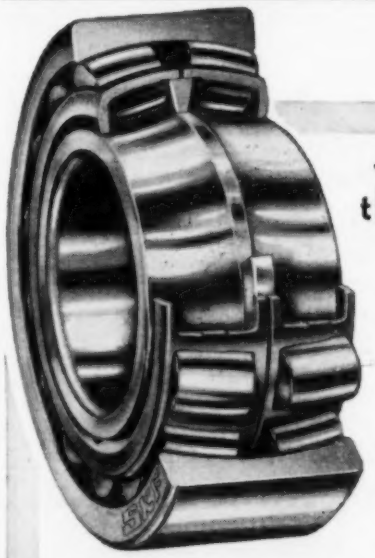


▲ For more details circle NED-504 E4



THE *IMPROVED* (TYPE "C") SPHERICAL ROLLER BEARING

the bearing that LI
comes

For your next replacement job, up to 3½ times longer than any

That's right— SKF's *improved* for size, 2 to 3½ times more life *in cost.*

Your nearby SKF Distributor has been improved to reach this h can supply your requirements p tributor is a trained specialist in

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▲ For more details circle NED-505 E

HYDRAULIC OIL STOPS

downtime and costly repairs to hydraulic equipment

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In Canada: E. W. PLAYFORD, LTD., Montreal 28
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New-type multi-purpose box...

BOOSTS PRODUCTION • CUTS COSTS!

1. **WORK-O-MATIC DROP-BOTTOM BOX.** Exclusive Union Metal square corner box of heavy gauge corrugated steel, with outturned 1" triangular bead flanges at top and bottom.
2. **CORNER STACKING ANGLES.** Permit safe group stacking—one box on another—saving valuable floor space by putting air space to work. Designed to stop end or side shifting.
3. **HINGED CHUTE BOTTOM.** Lowering of operator-controlled truck forks hinges bottom downward, automatically sliding parts into work-level tray.
4. **HEAVY-DUTY WORK-POSITIONING STAND.** Receives box from back or sides. Is safely, easily transported by lift truck from one work station to another when desired.
5. **CONTROL GATE.** Vertical adjustment controls constant flow of different size parts to service the work station.
6. **WORK-LEVEL TRAY.** Feeds parts to work station, eliminating costly, tiring, hazardous stretch-bend-stoop methods. *Reservoir feature* cuts "down time" during interchange of supply boxes.
7. **SLOPING TRAY END.** Assures maximum part accessibility. Easily removed during "job finish-off". Speeds job changes.

These are only a few Work-O-Matic features making as much as 52.8% production gains at thousands of work stations. Get all the facts by writing to The Union Metal Manufacturing Company, Canton 5, Ohio, for Folder MH-809 and T. & M. Studies.

*Patent No. 2,445,038. Other patents pending.

CHECK THESE WORK-O-MATIC* FEATURES!

UNION METAL
Materials Handling Equipment

▲ For more details circle NED-504 E4 on enclosed inquiry slip ▲

...that LIVES LONGER comes from SKF

...placement job, why not buy the spherical roller bearing that will *last* longer than any other available design?

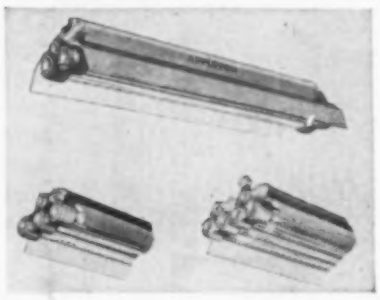
SKF's *improved* (Type "C") Spherical Roller Bearing *will* provide, size for size, many times more life, and up to 50% increased capacity . . . *at no increase*

SKF Distributor can show you how the original SKF Spherical design can be used to reach this higher performance level, and, in the most popular series, requirements promptly from his stock. Remember—your SKF Distributor specialist in helping industry *put the right bearing in the right place.*

SKF®
BALL AND ROLLER BEARINGS

▲ For more details circle NED-505 E4 on enclosed inquiry slip ▲

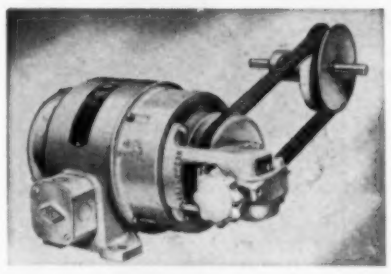
EXPLOSIONPROOF FIXTURES
line includes 2, 3 and 4-lamp units



Line of EFU explosionproof fluorescent fixtures which includes 2, 3 and 4-lamp designs for both straight and angle mounting are safe for class 1, groups C and D; and class II, groups E, F and G hazardous locations. Ballast choices are bi-pin Pre-heat, single-pin Slimline and a new bi-pin Rapid Start type. Fixtures allow safe re-lamping from either end and can be installed in continuous row or end-to-end. They are designed for use with 40-w, 48-in., T-12 and 100-w, 60-in., T-17 fluorescent lamps and are factory sealed. Line connections are made to terminal block in junction chamber. Enameled steel reflectors are easily removed. Made by **Appleton Electric Co.,** 1758 Wellington Ave., Chicago 13, Ill.

▲ For more details circle NED-506 E4 on enclosed inquiry slip ▲

SPECIAL MOTOR DESIGN
mounts variable speed drive directly



Special adapter end bell of this motor design permits direct mounting of Reeves Flexi-Speed drives, affording space savings in addition to easier layout and mounting. Both ½ and ¾-hp motors with 1800 or 1200 rpm input speeds are available with drives providing either 8:1 or 6:1 speed range, and 1-hp motor with 1800 rpm input is available with drive providing 7:1 or 6:1 range. Made by **Reuland Electric Co.,** Mission & Fremont, Alhambra, Calif.

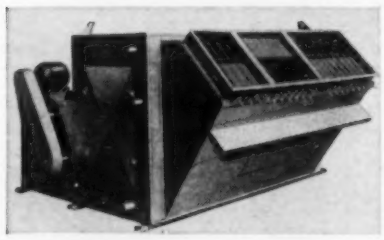
▲ For more details circle NED-507 E4 on enclosed inquiry slip ▲

BOOSTER VACUUM PUMP
operates without sealing fluid

Model MB mechanical booster vacuum pump is designed for use as a high vacuum stage in the low pressure range where single stage vacuum pumps have poor volumetric efficiency. It exhausts into the inlet of a Kinney single stage pump, acting as a second stage or backing pump. Combined unit has a wide high vacuum range with low power consumption. Pump requires no sealing fluid and when combined with a single stage 125-cu ft pump is capable of producing a blank-off pressure of 0.1-micron (McLeod gage). Pumping speed is about 750 cfm. Automatic control is provided. Pump is directly connected to a 10-hp, 1800 rpm motor and has a built-in bypass valve. Made by **New York Air Brake Co.,** 230 Park Ave., New York 17, N. Y.

▲ For more details circle NED-508 E4 on enclosed inquiry slip ▲

AIR CONDITIONERS
multizone models heat and cool

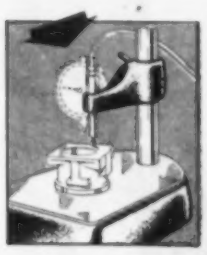


Engineered for multiroom installations where independent, variable heating and cooling are desired, Flexazone air conditioner is available in ten models with capacities ranging from 1300 to 24,000 cfm. Consisting of blower, coil and damper sections, it can be assembled in 24 different ways, depending on available space. Accessible damper arrangement makes possible addition or alteration of zones at any time in the field. Choice of horizontal or angular air flow is offered. Galvanized corrosion resistant panels and vinyl coated glass wool insulation are used. Made by **Drayer-Hanson, Inc.,** P. O. Box 2215, Terminal Annex, Los Angeles 54, Calif.

▲ For more details circle NED-509 E4 on enclosed inquiry slip ▲

IT'S SMALL! . . . *. . . no bigger than a king-size cigarette!*

USE IT AS YOU WOULD ANY DIAL INDICATOR . . .



Calibrated at our factory on the regular Dimensionair and available in .003", .006", .015", and .030" ranges: It's self-zeroing, so that no further calibrating is needed. Spindle travel of .140" total permits long overtravel. Water and oil-proof . . . not affected by coolant on production machinery.

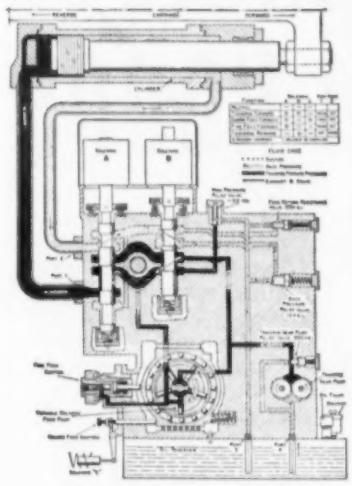
Ask us about this handy new instrument which can be used practically anywhere a Dial Indicator can be used. Federal Products Corporation, 4175 Eddy Street, Providence 1, R. I.

Ask **FEDERAL**
FOR ANYTHING IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic — for Inspecting, Measuring, Sorting, or Machine Size Control.

▲ For more details circle NED-510 E4 on enclosed inquiry slip ▲

ANY-FEED Oilgear Power Unit

For machine tool and other straight-line feeds



An amazing little fluid power feed pump for practically any machine tool or straight-line feed installation you can think of. It embodies the *Any-Feed* Oilgear Fluid Power unit with a 20:1 range and rapid traverse as high as 265:1 over feed rate. It provides undeviating precision day in and day out once the feed rate is set.

It installs *into* your assembly easily, or mounts nearby or remotely. Yet control of the many possible functions is found in the electric pushbutton station; or partial or completely automatic operation is available. It affords complete operating safety for all action is instantly neutralized in case of accident. All parts are completely and easily accessible. The design is simple; you mount, connect two pipes and control wires. Write for descriptive Bulletin 44200 now while you think of it. THE OILGEAR COMPANY, 1582 West Pierce Street, Milwaukee 4, Wisconsin. *Advt.*

▲ For more details circle NED-511 E4 on enclosed inquiry slip ▲

NEW! Atkomatic SOLENOID

Cast Iron and Cast Steel Valves

ATKOMATIC'S new line of cast iron and cast steel valves offer greater range of applications as well as new engineering principles. Internal design features compensate for expansion under heat, prevent sticking. Stainless steel hooded pilot seat screw permits more positive closing action. New design permits pressures to 1000 P.S.I. at 200° F., 500 P.S.I. at 450° F. Teflon disks inert to all media except hot fluorine are used. Removable inserts are used throughout complete range of sizes.

Available in sizes ½ through 2 inches.

Write for Technical Bulletin No. 106 for more complete information

Atkomatic SOLENOID
ELECTRIC VALVES

ATKOMATIC VALVE COMPANY
545-B ABBOTT STREET • INDIANAPOLIS 25, INDIANA

▲ For more details circle NED-512 E4 on enclosed inquiry slip ▲

THE SERVICE RECORDER COMPANY
1375A Euclid Avenue • Cleveland 15, Ohio

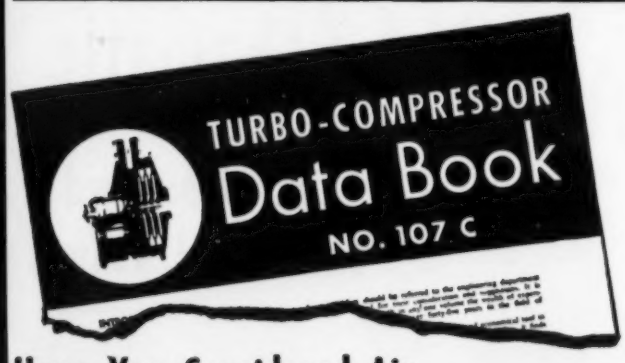
▲ For more details circle NED-514 E4 on enclosed inquiry slip ▲

DON'T WASTE MAN HOURS

Get more productive hours by reducing lost time in handling materials. One man, with the aid of a "Canton" Portable Crane, can lift and transport up to 3 tons of material to any part of the plant! For more details on saving man-hours, write today for Bulletin 51.

The HILL ACME CO.
"CANTON" DIVISION 1201 W. 65TH ST., CLEVELAND 2, OHIO

▲ For more details circle NED-515 E4 on enclosed inquiry slip ▲



Have You Considered Air for the Following Uses?

AIR CURTAINS . . . LIQUID REMOVING
HEAT TREATING . . . SCALE BLOWING
COOLING . . . SPRAYING . . . AGITATION
TESTING . . . DRYING . . . VENTILATING
HEAT TREATING

These and other applications are described in the Spencer Turbo-Compressor Data Book No. 107-C. Yours for the asking.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD
466-J

▲ For more details circle NED-516 E4 on enclosed inquiry slip ▲

INTAKE AIR FILTER
for small engines and compressors

Rayon flocked screen wire is filtering medium employed in type FS intake air filter for small portable or stationary engines and compressors. Flock is bonded to 14-mesh galvanized screen wire with thermoplastic bond impervious to gasoline or other solvents. Filter can be operated either dry or oil coated. When oiled, dust holding capacity compares with that of viscous type filter. Inner perforated screen baffle equalizes air flow and protects against backfire. Seven filter sizes are offered giving capacity range from 50 to 800 cfm. Weather shield is available for outdoor installation. Made by **American Air Filter Co.**, 391 Central Ave., Louisville 8, Ky.

▲ For more details circle NED-517 E4 on enclosed inquiry slip ▲

RELAYS
compact, are hermetically sealed

Small direct - current relays are developed to meet application requirements in limited space and are hermetically sealed in a metal container measuring 1⅛ x 1 9/16 x 1 13/16-in. high. They are available with 14-pin miniature plug or solder terminals. They comply with military specifications and can be furnished with resistance to shock and vibration and to withstand wide temperature fluctuations. They are supplied for any voltage up to 115 v dc and with contact combinations up to four-pole, double-throw. Resistance range is 0.12 to 11,000 ohms and weight is approximately 5 oz. Made by **Magnecraft Electric Co.**, 1442-G W. Van Buren St., Chicago 7, Ill.

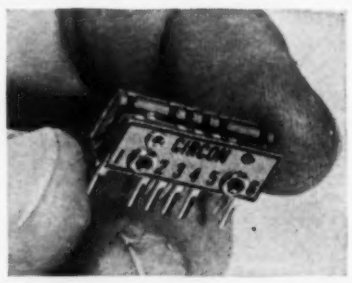
▲ For more details circle NED-518 E4 on enclosed inquiry slip ▲

DIRECT-CURRENT AMPLIFIERS
developed for various applications

Low - level direct-current microampere or millivolt inputs are converted to a high-level direct-current output by series 80 direct current amplifiers. They incorporate a high gain feed back loop and are suitable for measurement or recording of low level direct-current signals and such industrial uses as a thermocouple amplifier. Single input and triple range models are available. Ranges extend from 5 microvolts and 20 microamps full scale. Made by **Robertshaw-Fulton Controls Co.**, Fielden Instrument Div., 2902 N. Fourth St., Philadelphia 33, Pa.

▲ For more details circle NED-519 E4 on enclosed inquiry slip ▲

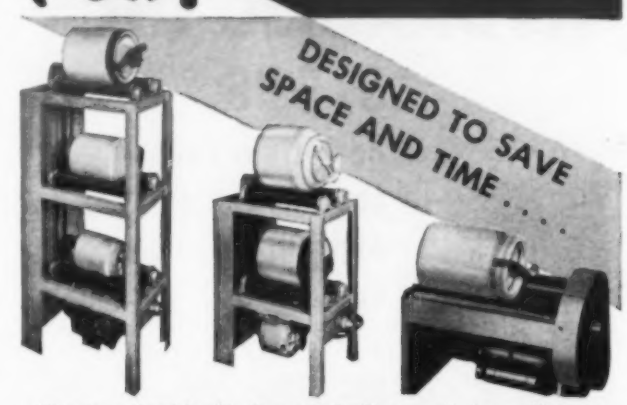
MINIATURE CONNECTORS
suitable for printed circuit use



Miniature and subminiature electrical connectors suitable for use in printed circuits are available in 16 models in basic modules of 2, 4, 6, and 12 contacts at rated maximum loads of 1 and 2 amp per contact. They permit side-by-side and end-to-end mounting of combinations and are particularly suitable for transistor circuitry. Channel design of female connectors is open end to accommodate the straight edge of any printed circuit. Units will connect independently to both sides of a circuit. Ribbon contacts are sufficiently flexible to insert in drilled or punched holes of mating circuits and can be bent or formed as desired. Made by **Circon Component Co.**, Sales Dept., 17544 Raymer St., Northridge, Calif.

▲ For more details circle NED-520 E4 on enclosed inquiry slip ▲

New! JAR MILLS



Here's a "unitized" line of "roller-type" jar mills especially designed for the busy, crowded laboratory. They are tiered to occupy a minimum of space. They feature a patented roller design that keeps jars centered — permits faster operation. The operator simply sets the jar on the rollers and starts the mill.

These mills are sturdily built with welded steel frames, heavy-duty oilite bearings, extra powerful drives. They are available in sizes to handle 1 to 12 jars of 1 pint to 3 gallon capacity. Laterally adjustable rollers permit rolling any round container from 2½"-13" dia. Variable speed drive optional on larger models.

Write for details, today!

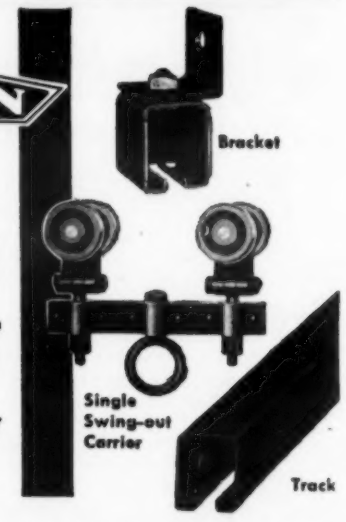
U. S. STONEWARE CO.
PROCESS EQUIPMENT DIVISION, AKRON 9, OHIO

▲ For more details circle NED-521 E4 on enclosed inquiry slip ▲

COBURN

OVERHEAD CONVEYING EQUIPMENT

simple, easy installation



Coburn track, brackets and carriers are simple in design . . . present no complicated installation problems. In fact, your own plant personnel can easily handle the job. Inexpensive re-arrangement or extension can also be made at any time because of the section design of Coburn Overhead Monorail.

Write for Catalog #220 to Coburn Sales and Engineering, 56 Sterling Street, Clinton, Mass.

THE COLORADO FUEL AND IRON CORPORATION • Denver and Oakland
WICKWIRE SPENCER STEEL DIVISION • Atlanta • Boston • Buffalo
Chicago • Detroit • New Orleans • New York • Philadelphia

1984

COBURN PRODUCTS
PRODUCTS OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CF&I

▲ For more details circle NED-522 E4 on enclosed inquiry slip ▲

Anyone can see

Yes, SHAFER Bearing quality is instantly apparent to anyone who has seen the efficient performance of industry's most reliable pillow block for the toughest applications.

Unique convex design of inner race in effect supports the shaft on a free-rolling ball (instant self-alignment), and that ball rolls naturally on matching concave surfaced rollers (high thrust and radial load capacity).

You can see that SHAFER Pillow Blocks hold the answer to your anti-friction bearing problems. Available in wide range of sizes, and housing options. Send today for Engineering Bulletin 51 containing full information. SHAFER Bearing Division, 801 Burlington Ave., Downers Grove, Illinois.

SHAFER BEARING DIVISION
CHAIN BELT COMPANY

▲ For more details circle NED-523 E4 on enclosed inquiry slip ▲

NEW ADJUSTABLE DRILL JIG
eliminates layout; cuts drilling time

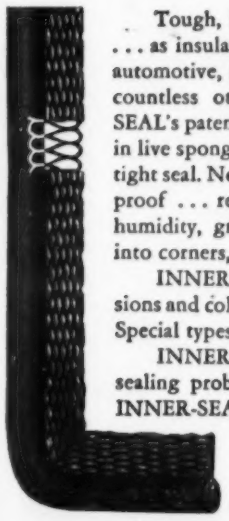
Used for drilling holes through round stock and hex stock from ¼" to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V-block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carriers hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works**, 22 Hancock St., Quincy, Mass. *Advt.*

▲ For more details circle **NED-524 E4** on enclosed inquiry slip ▲

Bridgeport INNER-SEAL

INDUSTRY'S MULTI-PURPOSE SEALING MATERIAL

Free folder, with engineering data and specifications, tells how industries use INNER-SEAL applications to eliminate sealing problems.



Tough, flexible INNER-SEAL has many uses . . . as insulation, cushioning, gasketing . . . in the automotive, railway and refrigeration fields, and in countless other fields of manufacture. INNER-SEAL's patented construction—spring steel molded in live sponge rubber—makes an effective, pressure-tight seal. Neoprene coated INNER-SEAL is waterproof . . . resists temperature extremes, sunlight, humidity, grease, oil and abrasion. It fits snugly into corners, around curves—lasts for years.

INNER-SEAL is stocked in standard dimensions and colors. Heavy-duty type available in black. Special types or colors made to order.

INNER-SEAL is constantly solving all sorts of sealing problems. If *you* have one — why not try INNER-SEAL?

FREE SAMPLES
and complete information
WRITE TODAY

BRIDGEPORT FABRICS, INC., BRIDGEPORT 1, CONN.

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you'll be SURE-FOOTED as a mountain goat on . . . TRI-LOK® *Serrated* GRATING

Tri-Lok provides you with the perfect open steel flooring for areas where grease, oil and other slippery conditions make walking dangerous.

By serrating both bearing and cross bars, a positive non-slip surface in every direction is assured . . . providing safe walking and eliminating an accident hazard.

Tri-Lok Serrated Grating contains all advantages of other *Tri-Lok* gratings *PLUS* the non-slip safety feature.

For more information write:

DRAVO CORPORATION
PITTSBURGH 22, PENNA.
National Distributor for THE TRI-LOK COMPANY

▲ For more details circle **NED-526 E4** on enclosed inquiry slip ▲

SAFETY GOGGLES
design prevents fogging

Large shielded ventilation holes draft off warm moist air from the top and center of Stac-Vent safety goggles to prevent fogging. They are designed for eye protection against chemical splash, spark and impact hazards and have a soft vinyl frame which is lightweight and molds to face contours without uncomfortable pressure. Frames fit over prescription glasses and are available either clear, or in transparent green or opaque black. Replaceable, optically correct and shatterproof lenses are available in heavy or light impact types in clear or green. Made by **Watchemoket Optical Co.**, Dept. N31, 232 W. Exchange St., Providence 3, R. I.

▲ For more details circle **NED-527 E4** on enclosed inquiry slip ▲

GERMANIUM DIODES
hermetically sealed types available

Hermetically sealed ceramic germanium diodes are now available to satisfy the critical demands of computer and military applications. In addition to some commercial computer types, three JAN types 1N69, 1N70 and 1N81 are available in production quantities. Most other series will in future have hermetic sealing. Improvement has been made without price increases and without altering other features. The seal is metal-to-ceramic and case ends can be solder-sealed to nickel pins. Diodes exceed requirements of JAN humidity specifications. Made by **General Electric Co.**, Electronics Park, Syracuse 1, N. Y.

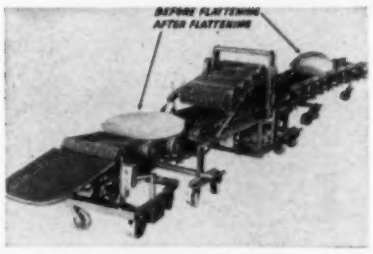
▲ For more details circle **NED-528 E4** on enclosed inquiry slip ▲

DIAL INDICATORS
line is comprised of 140 models

Accuracy, sensitivity, fast readability and long life are features of improved line of Starrett dial indicators, offered in a 140-model line with wide choice of types, sizes and graduations. Line includes regular and nonshock types, with balanced or continuous dials, jeweled or plain inserted bronze bearings, English or metric graduations in all four standard AGD groups plus a series of long range models. Latter series have count hands reading directly in decimals so that no calculations are necessary to translate revolutions into decimal parts of an inch. Basic gear assembly is interchangeable in several series. Made by **L. S. Starrett Co.**, Dept. ED, Athol, Mass.

▲ For more details circle **NED-529 E4** on enclosed inquiry slip ▲

CAR & TRUCK UNLOADER
features bag-flattening attachment



In operation, this Flexoveyor box car and truck unloader carries bags on flexible spring conveyor and on through hugger boom section which flattens each bag for easy storing. Powered by 1½-hp gearmotor which also drives flattener, unloader runs at speed of 120 fpm, delivering 1000 bags per hour. Conveyor can be supplied in any length. Pictured unit is 26 ft long overall, 24 in. wide and has 15-ft flexible section coupled to 11-ft rigid section. Side rails guide bag into flattener, and hydraulic jack raises and lowers discharge end for loading to pallets. Made by **Flexoveyor Mfg. Co.**, 1224 S. Acoma St., Denver 19, Colo.

▲ For more details circle **NED-530 E4** on enclosed inquiry slip ▲

PROVE TO YOURSELF!

Speed Production
Cut Costs

We GUARANTEE *faster* and *easier* assembly of open-type retaining rings . . . and less ring loss . . . with Industrial STACKED Retaining Rings. No more fumbling with tangled unstacked rings.

Try without risk. Full refund if Industrial's one-at-a-time modern dispensing does not reduce production costs. Industrial's specially designed base and tool are free with initial order. *Send today for new illustrated literature.*

Originators of Modern Dispensing

INDUSTRIAL RETAINING RING CO.
8 WEST SIDNEY AVENUE
MOUNT VERNON 4, NEW YORK

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SUCTIONEER!

HOW TO CLEAN floors, walls, machinery, overhead beams and pipes, ceilings, venetian blinds, boilers, etc. *faster, better,* at *lower cost* is a major maintenance problem. A Clarke "Suctioneered" vacuum cleaner is the answer.

WHAT IS "SUCTIONEERED"? The Clarke vacuum cleaner is skillfully engineered and built for powerful suction, years of heavy-duty service; yanks dirt, dust, metal chips, other solids from all surfaces, picks up water, oil and other fluids, reduces physical effort.

WHY CLARKE is the choice of cost-conscious management should be a major factor in *your* selection of a Clarke vacuum cleaner. The complete Clarke line assures you the *right model* for your *cleaning* job.

NOW IS THE TIME to learn the complete Clarke story — before *you buy any vacuum cleaner.* Write for FREE literature on Clarke vacuums and floor maintainer line. Better yet, ask for an on-the-job demonstration.

Authorized Sales Representatives and Service Branches in All Principal Cities

Clarke

SANDING MACHINE COMPANY
225 East Clay Avenue Muskegon, Michigan

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In 1950 American Welding completed the first successful production flash butt-welding of the new wonder metal —Titanium Alloy. Since that time hundreds of Titanium components have been produced in our plant.

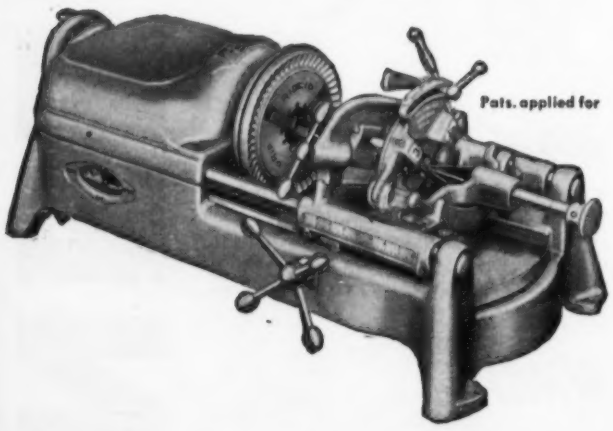
If you use, or are planning to use, fabricated Titanium components, let our Product Development Division study your problem. Our factory is equipped to perform welding, machining, and fabricating of all types of ferrous and non-ferrous metals. Call or write us today!

THE AMERICAN WELDING & MANUFACTURING CO.
170 DIETZ ROAD • WARREN, OHIO

▲ For more details circle NED-533 E4 on enclosed inquiry slip ▲

For Fast Bolt Threading
... it's the New 500A
RIDGID
with new "SPEED-GRIP" CHUCK

New principle...
not just another hammer chuck!



The bolt and rod threader that's fast!
Capacity ¼" to 2" bolts—pipe, too, ⅛" to 2"

You've got to see it and try it to believe it! Only 2 quick-opening die heads—small head for ¼" to 1" bolts, large head for 1¼" to 2" NC, to 1½" NF—to 2½" in 8N, 12N and 16N . . . easy die change, right or left hand threads, easy adjustment to over or under size. Special dies on request. This 500A threads any length bar to 2½" diam., makes studs with RIDGID Nipple Chuck, cuts off 5/16" to 1" rod. Independent operation of tools. Lots of power. New Speed-Grip Chuck guaranteed to hold rod or pipe securely *forward or reverse*—motor action makes it tighter. See it, buy it at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U.S.A.

RIDGID
Work-Saver Pipe Tools

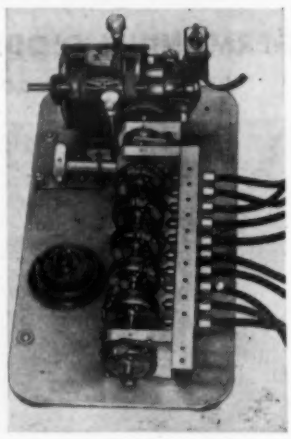
▲ For more details circle NED-534 E4 on enclosed inquiry slip ▲

SOFT-FACED MALLETS
plastic heads in four hardnesses

In order to cover a complete range of industrial pounding requirements, Nupla soft-faced mallets are available in four sizes and four hardnesses. Hard, tough, medium and soft grades are distinguished by a distinctive coloring. Nuplaflex plastic used in heads recovers its shape when dented, and does not chip, flake or mushroom. Neither will it spark or mar finished surfaces. Design reduces sting, shock and rebound. Since handle does not project through the head, all surfaces are usable. Made by **New Plastic Corp.**, Dept. 113, 1026 N. Sycamore Ave., Los Angeles 38, Calif.

▲ For more details circle NED-535 E4 on enclosed inquiry slip ▲

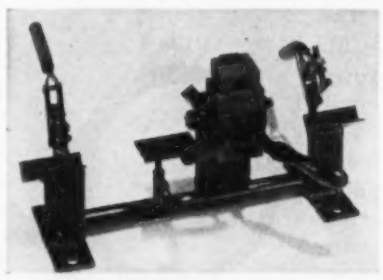
ELECTRO-PNEUMATIC TIMER
for sequence controlling air cylinders



Electro-pneumatic timer controls action of air cylinders in an almost infinite variety of sequences. Unit illustrated operates twelve single-acting or six double-acting cylinders, but will handle larger numbers if number of cams and rotors is increased. A small electric motor drives a shaft through quick-change gearing. Shaft is fitted with rotors equipped with adjustable cams which trip miniature poppet valves to convey a compressed air impulse to the operating valves. Cycle variations are obtained both by adjusting cams and changing the motor gears, a set of ten gears permitting cycle variations from 3 to 33 seconds. Continuous or manually reset cycling is possible. Made by **Mead Specialties Co.**, Dept. S-40, 4114 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle NED-536 E4 on enclosed inquiry slip ▲

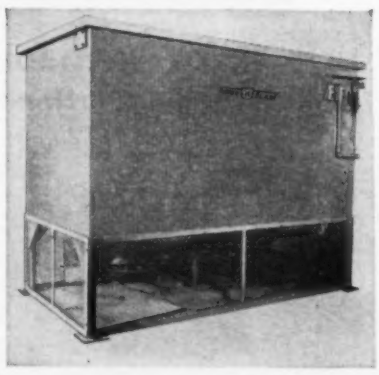
ARC WELDING FIXTURE
for joining cable, accessories



Rapid - production Cadweld connections of welding cable to all Caddy arc welding accessories, plus splices of welding cable can be made with the L-145 bench fixture. Quick-acting cable clamps are employed to lock cable into position in the welder. An adjustable platform facilitates installation of holder jaws, ground clamp jaws, connectors and lugs. Mold changes for various cable sizes are made in a few seconds. Made by **Erico Products, Inc.**, 2072 E. 61st Pl., Cleveland 3, O.

▲ For more details circle NED-537 E4 on enclosed inquiry slip ▲

PARTS CLEANING MACHINES
20-2300-gal solution capacities



Physical force, chemical detergency and heat are the three basic cleaning factors utilized in Turbo-Blast parts cleaning machines. Models range in size from 20 to 2300 - gal solution capacity for applications in cleaning, degreasing and stripping. All models have impellers which create violent scrubbing action, while some are equipped with baffle plate covers which allow agitation with two-layer stratified cleaning materials. Units are heated by steam, fuel oil, natural or manufactured gas and are thermostatically controlled. Conveyorized systems, with varying patterns and fluid application can be devised. Made by **Storm-Vulcan, Inc.**, P. O. Box 6653, Dallas 19, Tex.

▲ For more details circle NED-538 E4 on enclosed inquiry slip ▲

SEND TODAY! FOR THIS HANDY, NEW POCKET-SIZE CATALOG!

It shows you how to select the RIGHT

Complete engineering data, drawings, photographs and a complete list of Abart Speed Reducers—all in a 4½" x 6", handy size catalog for easy carrying and reference.

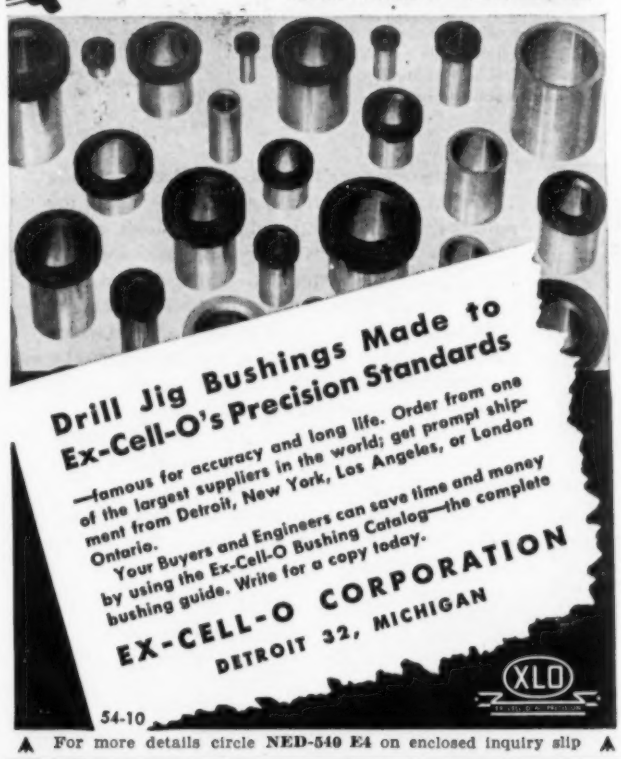
SPEED REDUCER FOR EVERY JOB!

You can meet your exact requirements for each specific application with one of the more than 75 Abart Speed Reducer models in spur, worm and combinations. Single and Double-reduction models are rated from 1/50 to 168 hp. with ratios up to 10,000 to 1. Abart Speed Reducers are oil-tight and sealed against dust.

Abart GEAR & MACHINE CO.
4826 WEST 16th STREET • Bishop 2-2524 • CHICAGO 50, ILLINOIS

▲ For more details circle NED-539 E4 on enclosed inquiry slip ▲

QUICK ACTION ON ANY ORDER



▲ For more details circle NED-540 E4 on enclosed inquiry slip ▲

Moving or Storing is Rapid, Convenient and Inexpensive with

IRONBOUND SEMI-LIVE SKID PLATFORMS

Ruggedly built with capacities up to 2500 lbs. These units are quickly made mobile with the use of low cost lift jacks . . . One of the methods that Ironbound engineers use to increase production and conserve space at low cost.

SEMI-LIVE SKID WITH BOX TOP

. . . permanently attached or removable. Also available with many other superstructures to "Short-Haul" your products thru production or into storage. Useful in hundreds of spots in every plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS

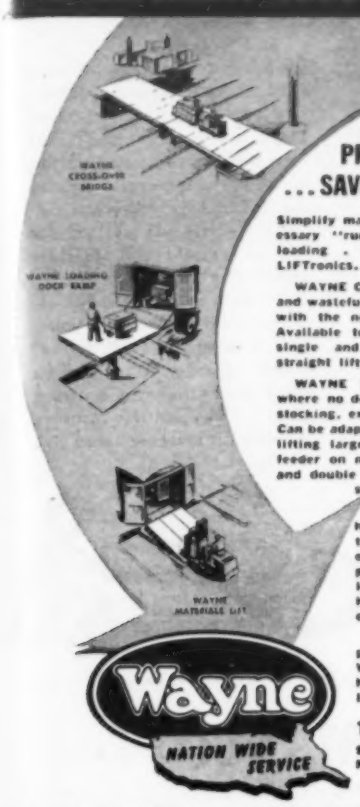
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

▲ For more details circle NED-541 E4 on enclosed inquiry slip ▲

CUT THE HANDLING IN MATERIALS HANDLING WITH



Wayne LIFTS

BOOST PRODUCTIVE MAN HOURS ... SAVE TIME, LABOR, DOLLARS

Simplify materials handling! Eliminate unnecessary "run-around hauls," loading and reloading . . . install Wayne's System of LIFTronics.

WAYNE CROSS-OVER BRIDGES reduce costly and wasteful hauling, speed traffic and do away with the need for ramps between buildings. Available to suit every need and location—single and double bascule, turntable and straight lift platforms.

WAYNE PLATFORM LIFTS speed loading where no dock is available, simplify inventory stocking, expedite all elevator type operations. Can be adapted to unusual handling problems—lifting large rolls of paper in printing plant, feeder on machines, etc. Available in single and double post types made to fit your exact specifications.

WAYNE LOADING DOCK RAMPS have proved they can cut loading time by as much as 75%. Loading or unloading, just back up the truck, push the button and the Wayne Loading Dock Ramp is adjusted to correct height. Factory trucks can roll on or off easily.

Answer your materials handling problems with Wayne LIFTronics. Write for the new book on materials handling giving engineering data, installation photos, etc.

Wayne NATION WIDE SERVICE

THE WAYNE PUMP COMPANY
SALISBURY, MARYLAND — TORONTO, CANADA

For more details circle NED-542 E4 on enclosed inquiry slip

MILTON ROY CONTROLLED VOLUME PUMP CUTS PRODUCTION TIME 50%

• "miniPump"—miniature member of Milton Roy Controlled Volume Pumps, was installed in a plant process operation. It replaced a costly manual process in the pumping of one tenth of a milliliter (1/300 of an ounce) of liquid into open cells on each stroke of the pump. The conversion to automatic continuous injection cut production time 50%—and gave greater accuracy!

These versatile instruments meter any clear liquid in capacities from 3 to 3200 millliters per hour against pressures up to 1000 pounds per square inch.

- Applications for the pump are varied—ranging from laboratory and pilot plant use to full-scale production operations. They are used as individual units or as components of instrumentation or automatic control systems.
- New Bulletin No. 653 illustrates and describes "miniPump"—its design—construction—uses. Write today for your free copy!

MILTON ROY COMPANY
1304 E. MERMAID LANE • PHILADELPHIA 18, PA.

For more details circle NED-543 E4 on enclosed inquiry slip

Here's how to SAVE TIME in SETTING-UP and KEEPING your MACHINES LEVEL

Fast Accurate Self-Aligning Machine Leveler

Empco JACK

Empco Jacks enable you to meet hurry-up demands for relocation of machinery by giving you the fastest, easiest, most accurate machine leveling ever known: you simply raise or tilt machine sufficiently to allow the Empco Jacks to be slipped under base. The number of jacks required depends on weight of machine and size of base. Once set on Empco Jacks, the entire operation of leveling and maintaining equipment level is quickly done. By applying a wrench to the "hex" head of adjusting screw, an adjustment is obtained either up or down until your level indicator reads "zero." Write for specifications and prices today.

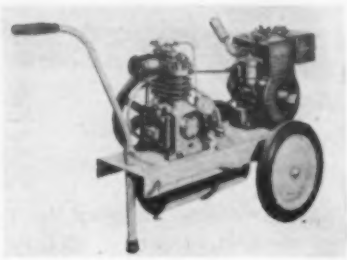
Vibration absorbing mounting pads increase machinery life.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

For more details circle NED-544 E4 on enclosed inquiry slip

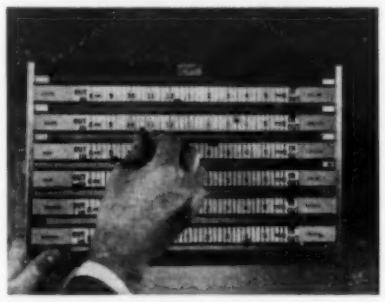
PORTABLE AIR COMPRESSORS
½, 1-hp models rated up to 5.4 cfm



Line of portable air compressors includes 1-hp model for spray painting which is rated 60 psi and delivers 5.4 cfm, as well as ½ and 1-hp units for general utility work. Latter two units have 100-psi maximum pressure rating and deliver 1.91 and 4.2 cfm, respectively. All units have either electric or gasoline motor as power source, and are mounted on chassis with two large rubber-tired wheels. Handle can be removed for transporting by truck or car. Air tank eliminates pulsation of delivered air and collects moisture. Made by **DeVilbiss Co.**, 301 Phillips Ave., Toledo 1, O.

For more details circle NED-545 E4 on enclosed inquiry slip

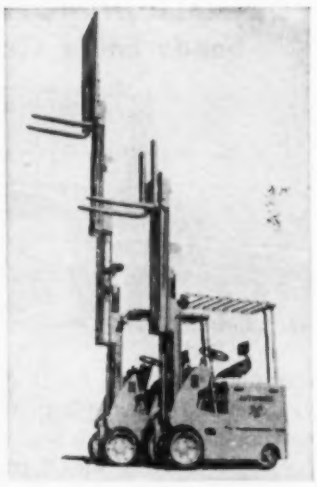
IN-AND-OUT BOARD
has capacity for 12 names



Absence, expected return and/or presence of up to 12 individuals are indicated by Lit-Ning in-and-out board. Six rails each carry two names and one red and one blue movable matching signal, extruded by Anchor Plastic Co. Board can be operated and seen from both sides. Unit is also adaptable for other uses including inventory and production scheduling and for use as a reminder board. Additional signals are available for these uses. It is also available in 24 and 36-name models. Made by **Lit-Ning Products Co.**, Dept. A, P. O. Box 3370, Fresno 25, Calif.

For more details circle NED-546 E4 on enclosed inquiry slip

HIGH-LIFT MAST
7-ft trucks tier up to 16½ ft high



Tiering goods up to 16½ ft high by 83-in. overall height fork trucks is made possible by triple-telescopic mast having a second rising section added to the truck's uprights. Mast is available as an integral part of the standard Automatic fork truck chassis on models ranging from 2000 to 10,000 lb in capacity. Illustration shows lifting capacities of two similar trucks. Unit on the left is fitted with the new mast. Made by **Automatic Transportation Co.**, 149 W. 87th St., Chicago 20, Ill.

For more details circle NED-547 E4 on enclosed inquiry slip

STEEL MEASURING TAPE
features ¾-in. blade width

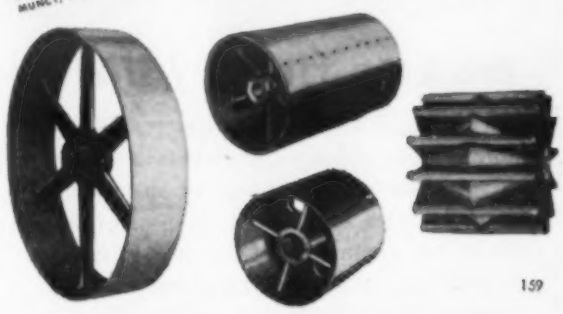
The ¾-in. tape width of the King-Size pocket White-Tape enables the blade to be extended straight up into the air to practically its entire 10-ft length without bending or buckling. Each tape has a removable belt clip and double markings. One edge is calibrated in 1/16-in. increments and is marked from 1 to 120 in. First 6 in. are marked off in 1/32-in. increments. Other side is calibrated in feet, inches and ⅛-in. Black-on-white foot markings are repeated at each inch mark. Each tape is packaged in a clear Tenite Box. Made by **Evans & Co.**, Dept. NED, Elizabeth, N. J.

For more details circle NED-548 E4 on enclosed inquiry slip

SPROUT WALDRON MUNCY, PENNSYLVANIA

PULLEYS

SOLID FACE and BELT SAVER



159

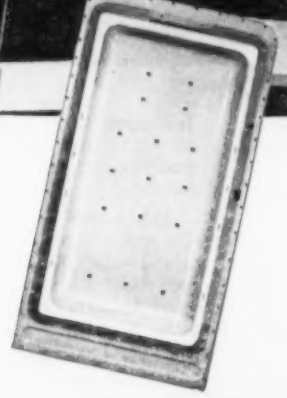
In handling rough, abrasive materials, S/W exclusive Belt Saver Pulleys are lengthening belt life as much as 400%. Equally well recognized is the S/W Blue Face Pulley Line in standard and made-to-order types and sizes. Write today for literature. Sprout-Waldron & Co., Inc., 8 Logan Street, Muncy, Penna.

Vertical Mixers, Attrition Mills, Rotary Feeders, Ribbon Type Mixers, Crushers, Knife Cutters, Continuous Mixers, Roller Mills, Separators, Pulleys

SPROUT-WALDRON

For more details circle NED-549 E4 on enclosed inquiry slip

need volume production?



get it here—in ***plastics*** *molded by General American*

Manufacturers who never dreamed of using plastics for parts or products are getting results they've always wanted at General American's huge plants!

Big Volume Production—fast, at low cost, with color, fine finish and difficult designs *molded in*. These products are molded on batteries of injection presses ranging up to 300 ounces, compression presses up to 2,000 tons, and a variety of sizes of reinforced plastics presses.

New Sales Appeal, New Products, New Ideas can take shape when General American's start-to-finish facilities join your team. Experienced men with equipment unmatched anywhere will work with you on every phase of production.

Talk over your requirements and ideas with a General American engineer.

GENERAL AMERICAN Plastics Division

GENERAL AMERICAN TRANSPORTATION CORPORATION
135 South La Salle Street • Chicago 90, Illinois

For more details circle NED-550 E4 on enclosed inquiry slip

makes tight joints

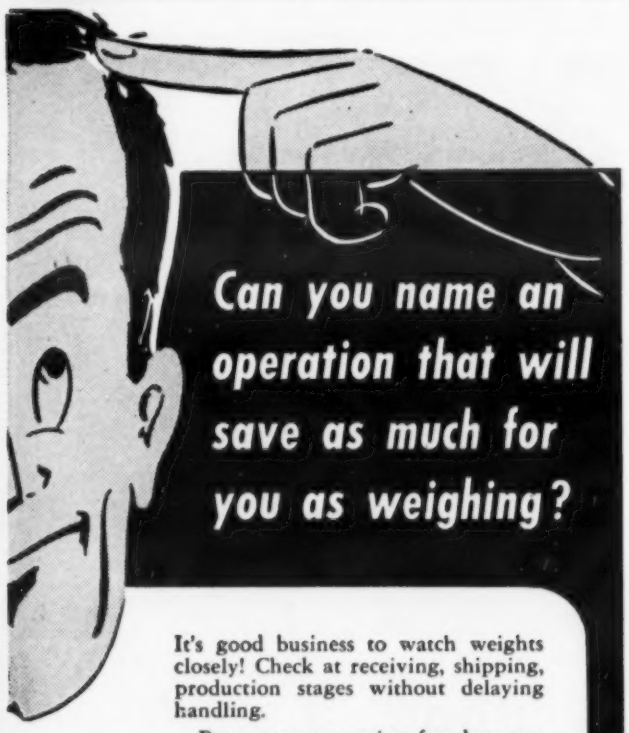
Use Cabot's Plasgon for sealing pipe joints and making emergency gaskets. Provides a quick, easy-made leak-proof seal which stays flexible. Unaffected by gas, glycol, oil, water, steam and all common solvents. Resists heat up to 350°F. and considerable pressure. Use right from tube. Put Plasgon in your maintenance men's kits.

Write Today for free sample tube of Plasgon, in black or white — state preference.

Samuel Cabot Inc.

532 Oliver Bldg., Boston 9, Mass.

▲ For more details circle NED-551 E4 on enclosed inquiry slip ▲



Can you name an operation that will save as much for you as weighing?

It's good business to watch weights closely! Check at receiving, shipping, production stages without delaying handling.

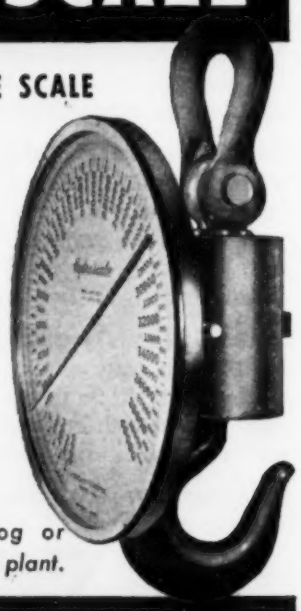
Put a stop to paying for dunnage, inaccuracies, other's miscalculations that rob you of your profit. Weigh loads as you lift them to move them by crane or hoist. Speed inventories, eliminate labor and equipment tie-ups at the weighing station.

Thousands of HYDROSCALES are at work in large and small plants all over the country.

The cost of weighing has been reduced to a minimum by—

HYDROSCALE

HYDRAULIC CRANE SCALE



36 models
500-200,000 lbs.

12", 24", 30" dials

Tilt face models for high level reading

Combined reading kilogram-pound dials

Batching models indicate pour-off

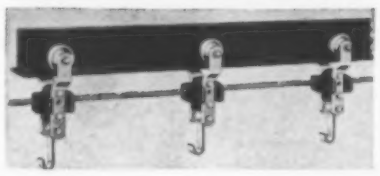
Write for our catalog or demonstration in your plant.

HYDROWAY SCALES, INC.

20624 WEST 8 MILE ROAD · P. O. Box 4754 · DETROIT 19 MICH

▲ For more details circle NED-552 E4 on enclosed inquiry slip ▲

CABLE CONVEYOR
in 1/4 and 3/8-in. cable sizes



Trolleys of the Bush-Lock cable conveyor feature cylindrical bushings which are permanently locked on accurate centers by high pressure swaging to preformed galvanized or stainless steel cable. Rotary floating action of bushing and fact that bushing can be lubricated result in long cable life. One standard trolley can be used at all points. Cable is supplied in 1/4-in. size with trolleys on 12 and 15-in. centers and in 3/8-in. size with 12 3/32 and 15 1/16-in. centers. Nine wheel types are available, depending upon operation. Conveyors can travel on one floor, between floors and from one plant to another and will operate on existing Snub-Lock design systems. Made by **E. W. Buschman Co.,** 4482 Clifton Ave., Cincinnati 32, O.

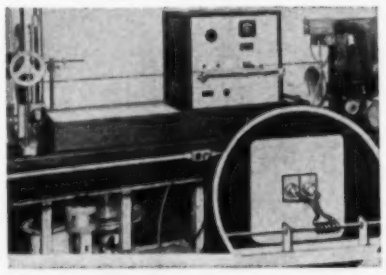
▲ For more details circle NED-553 E4 on enclosed inquiry slip ▲

ELEVATOR DOOR OPENER
for car gate and hatch door

Manual handling of bi-parting doors and gates on freight elevators is eliminated by the Carmaster Operator. This device automatically opens the car gate and hatch door simultaneously as the elevator is leveling to the floor. Operator can open and close rear doors without leaving his controls. Unit mounts on the car platform and can be installed on existing doors and elevators. Operation of doors is by two torque motors, but can be manual at any time. Made by **Guilbert, Inc.,** 1105 Frankford Ave., Philadelphia 25, Pa.

▲ For more details circle NED-554 E4 on enclosed inquiry slip ▲

PORTABLE INDUCTION HEATER
bonds cable strands before cutting



Portable tube operated induction heating unit was developed to speed electrical wiring assembly line operations. It is shown here used in conjunction with an automatic wire cutting and stripping machine, heating and bonding wire to prevent ends from fraying at points where subsequent cutting and stripping will occur. It can also be used for heat treating small parts, localized annealing of spring wire and joining various types of wire products. Model T-1-W heater operates on 115-v single phase current and is provided with stepless output control. Made by **Lepel High Frequency Laboratories, Inc.,** 55th St. & 37th Ave., Woodside, N. Y.

▲ For more details circle NED-555 E4 on enclosed inquiry slip ▲

OIL-FIRED UNIT HEATER
heat output is 220,000 Btu per hour

Fired by a conventional gun type oil burner, the model UH-220 unit heater has a vertical flue which permits the products of combustion to be exhausted through a short flue pipe. Burner and flue outlet can be attached to either side of the heater. Mounting can be from ceiling or on a portable platform or dolly for temporary heating in spot locations. Heater is equipped with adjustable louvers and a 1/2-hp propeller fan which throws heated air for an effective distance of 50 to 75 ft. Heat output is 220,000 Btu per hour when fired with a 2-gph nozzle and air delivery is 5730 cfm. Made by **Certified Furnace Corp.,** Dept. C-17, Trenton, N. J.

▲ For more details circle NED-556 E4 on enclosed inquiry slip ▲

NEW MANCO

HYDRAULIC RIVETER

Here's fast, silent, and powerful hydraulic riveting. Riveting cycle only one second. Easy-to-operate hand lever valve mounted on riveting head. No solenoids. Capacity for 1/4" and 5/16" rivets. Adjustable pressure setting for use on straight and shoulder rivets. Riveting yoke reach is 1 3/4" with a gap of 1 3/8" including rivet sets. Other yokes also available. Full swivel about cylinder axis permits easy placement. Compact electric hydraulic pump. Weight of riveting head . . . 18 lbs.

Model R-211-188E

Other Manco Riveters are available with capacities from 10 to 150 tons. Send us your riveting problem.

Dept. NED-5

MANCO mfg. co.

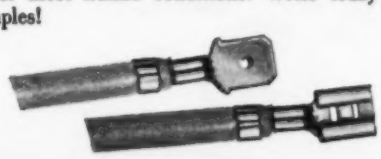
Bradley, Illinois

▲ For more details circle NED-557 E4 on enclosed inquiry slip ▲

are Sweeping the Electrical Industry!

More and more manufacturers are getting into the swing to AMP FASTON connectors! Timers, clocks, switches, outlets, controls—all types of electrical components when equipped with AMP FASTON tabs not only *cost less* to produce, but offer all the advantages of easier, faster wiring on the line. To install, simply push FASTON on its mating tab. Wiring is accomplished in a fraction of the time required for screw-type terminal posts!

Triple spring action and wide wiping contact of AMP FASTON provides excellent electrical connection. U.L. approved, patented, AMP F CRIMP is voidless—gives high tensile strength and resists corrosion even under most humid conditions. Write today for information and samples!



AMP

Aircraft-Marine Products, Inc.

2100 Paxton Street, Harrisburg, Pennsylvania

▲ For more details circle NED-558 E4 on enclosed inquiry slip ▲

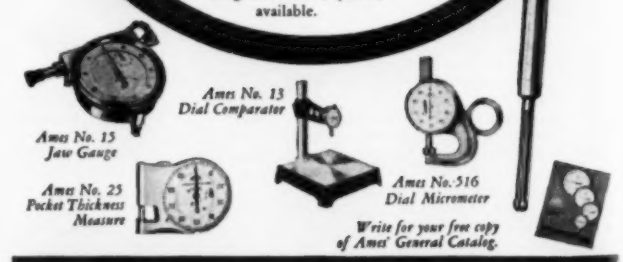
AMES

...the Preferred **Small Hole Gauge No. 36**

Skilled and unskilled employees can use this superbly designed two-point contact gauge to make quick, accurate, *impersonal* inspections of small holes for size, taper and roundness.

The spherical contact point automatically centers itself and indicates the true diameter at the point measured.

The Ames Small Hole Gauge No. 36 checks holes with 3/16" to 1" diameter, up to 2" deep. Longer lengths and special contacts to check irregular recesses, splines, available.



Write for your free copy of Ames' General Catalog.

Representatives in principal cities. **B. C. AMES CO.** *34 Ames Street Waltham 54, Mass.*

Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

▲ For more details circle NED-559 E4 on enclosed inquiry slip ▲

A Motor for LOW SPEED OPERATION

If you are now manufacturing a product or developing a product where you need motion at slow speed, here is the motor for you. Hundreds of thousands now in use on cooking appliances, vending, coin operated, amusement, and advertising displays.

These AC gear motors are precision built and are being manufactured in volume for immediate delivery. For further information, send the requirements of your application to us. Special motors are built to meet your new product needs. Write today for data sheet.

MotoRESEARCH COMPANY
1600 JUNCTION AVENUE
RACINE, WISCONSIN

Designers and Manufacturers of
SPECIAL INDUCTION MOTORS

For more details circle NED-560 E4 on enclosed inquiry slip

GENUINE — SIMPLE
SILVER PLATING
"ON THE JOB" WITH POWDER

Purposes of silver plating need not be explained to you of the electrical field.

The biggest problems of silver plating are its convenience, economy and thoroughness. "Cool-Amp" silver plating POWDER is the answer to these problems.

"Cool-Amp" deposits a genuine coat of silver that will not peel off and provides cool maximum conductivity for copper, brass or bronze contacts. It has been proven equal to any electroplating for bolted and stationary contacts and is far more adaptable . . . always ready for use.

"Cool-Amp" POWDER offers a quick and easy solution to heating due to oxidation, improves the continuity of electrical service and reduces maintenance.

"Cool-Amp" is completely harmless to the user and is simple to apply. It can be used by any number of people at the same time. ON THE JOB, in underground vaults and sub stations and in hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

Dampen a rag, dip in "Cool-Amp" and rub on surface. One pound will silver plate approximately 6000 square inches.

$13.50 PER POUND SHIPPED PRE-PAID

WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS

GENUINE • SIMPLE SILVER PLATING

COOL-AMP

Dept. ED 8603 S. W. 17th Avenue • Portland 19, Oregon

For more details circle NED-561 E4 on enclosed inquiry slip

Handles any job requiring a baked finish

Despatch FINISH BAKING OVENS

Write for the Despatch RS Bulletin

All Industrial painters are enthusiastic about the Despatch *RS-4 or 5* Finish Baking Ovens. In this particular operation at Minneapolis-Honeywell Regulator Co. it is being used for baking finishes on relay cases. They like the accurate temperature control, ease of loading and temperature uniformity within their oven. They figure that this RS Oven, installed in 1946, paid for itself years ago through the saving in baking time and labor. Have you a need for controlled, uniform heat up to 500°?

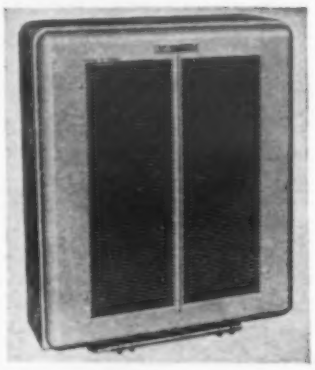
DESPATCH OVEN CO. Established in 1902

Manufacturers of ovens for: Paint Finishing . . . Dehydrating . . . Curing . . . Industrial and Lab. Applications.

325 Despatch Bldg., Minneapolis 14, Minn.

For more details circle NED-562 E4 on enclosed inquiry slip

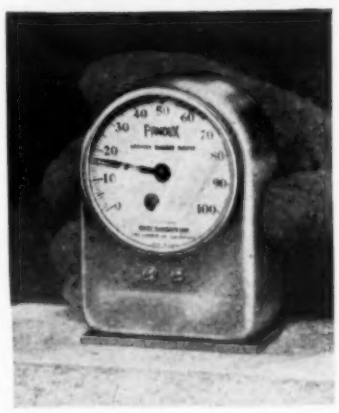
ELECTRIC SPACE HEATER
for wall surface mounting



Designed for surface mounting on concrete, brick or stone walls, Electromode wall heater is available in 1500, 2000, 3000 and 4000-w capacities. Heated air is circulated at floor level by a built-in fan. Unit has a cast aluminum sealed-in heating element which eliminates danger of fire, shock or burns. It is available in both nonautomatic and automatic models. Three T-slots are provided on the back of the silver gray hammertone finish cabinet for mounting. Unit measures 21 in. high, 17-in. wide and extends 5½ in. from the wall. Made by **Electromode Corp.**, 54 Crouch St., Rochester 3, N. Y.

For more details circle NED-563 E4 on enclosed inquiry slip

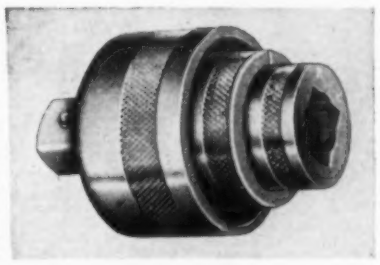
RESILIENCE TESTER
for foam and sponge rubbers



Rapid and accurate method of checking the resilient qualities of soft foam and sponge rubbers as well as other soft elastomers is provided by model 302S Pandux tester. Measurement is made by placing the instrument on the material, and direct reading is given on the dial scale. Specimen should be at least ¾-in. thick or comprised of several thicknesses to reach that total thickness. Instrument weighs 6 oz and can be carried in the pocket. Made by **Pacific Transducer Corp.**, 11921 P. Pico Blvd., Los Angeles 64, Calif.

For more details circle NED-564 E4 on enclosed inquiry slip

RATCHET WRENCH ADAPTOR
heavy duty ¾-in. square drive type



Heavy duty ¾-in. square drive model 67A ratchet adaptor converts any combination of work handle, extension, socket or torque wrench into a reversible ratcheting action tool. Handle movement of only 10 degrees permits its use in close quarters. A reversing collar with directional markings governs direction of driving action. Four driving pawls are used, two of which are always in position when ratcheting. When ratchet is disengaged, the adaptor is in positive drive. Unit has a 2½-in. maximum diameter and is 3¾-in. long. Moving parts are made from heat treated alloy steel and are prepacked with grease. Made by **B. K. Sweeney Mfg. Co.**, Dept. 13, 1601 23rd St., Denver 17, Colo.

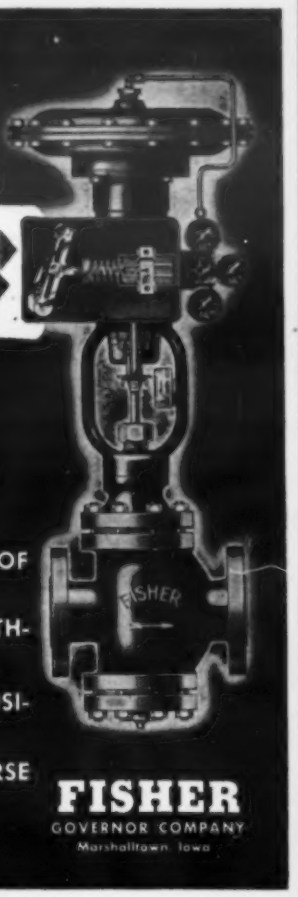
For more details circle NED-565 E4 on enclosed inquiry slip

ELECTRIC ARC WELDER
triple range unit is foot controlled

Selenium rectifier Aircrafter direct current arc welder has a remote foot switch controlling output, which is variable between 5 and 95, 12 and 180 or 55 and 300 amp dc depending upon range selector switch setting on the control panel. Foot switch also shuts off the welder when minimum output is used, so that craters can be filled and cooling rate of weld deposit can be controlled. Unit provides instantaneous polarity selection, has a dripproof cabinet and possesses good arc flexibility. Welders can be arranged in parallel for higher output. Made by **Miller Electric Mfg. Co.**, 716 S. Bounds St., Appleton, Wis.

For more details circle NED-566 E4 on enclosed inquiry slip

FISHER
POSITROL



FOR ACCURATE POSITIVE VALVE POSITIONING

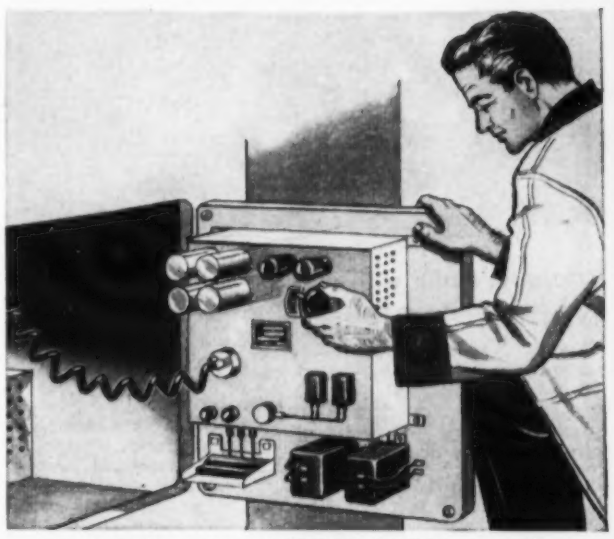
FEATURES
- COMPACT — SIMPLE RUGGED
- 5 YEARS FIELD SERVICE
- EASILY ADJUSTABLE
- FORCE BALANCE TYPE OF POSITIONER
- AVAILABLE WITH OR WITHOUT BY-PASS
- USABLE AS REMOTE POSITION INDICATOR
- FOR DIRECT OR REVERSE ACTION VALVES

Write for Bulletin E-3500

FISHER GOVERNOR COMPANY
Marshalltown, Iowa

For more details circle NED-567 E4 on enclosed inquiry slip

*Koiled Kords** permit EASY SERVICING of In-a-Door or Sliding Units . . .



A six inch section of KOILED KORDS retractile cord will extend to more than two feet when pulled and when released will retract immediately to its original neat, compact, spring-like shape. KOILED KORDS solve the problem of carrying current to movable units without having a long trailing cord to foul in the mechanism. They make it possible to retain electrical contact between units when they are pulled out for servicing, facilitating trouble location and correction.

KOILED KORDS extend as needed without looping, dangling or tangling.

KOILED KORDS are compact, neat, attractive, built to withstand continued flexing.

KOILED KORDS are available on special order to your specifications in multi-conductor types up to 37 conductors. Stocked types include 2, 3, 4 and 5 conductor #23 AWG communications cords and 2, 3 and 4 conductor Underwriters' Laboratories approved SO, SJO and SV-neoprene jacketed power cords. KOILED KORDS can be supplied in 48 inch mandrel lengths or prepared into cord sets for attachment to equipment.

WRITE FOR KOILED KORDS APPLICATION BULLETIN

©1954.
Koiled Kords INCORPORATED
BOX K, Hamden, Connecticut
*Trade Mark of Koiled Kords, Inc.

For more details circle NED-568 E4 on enclosed inquiry slip

LAMSON EXIDUST

CENTRAL VACUUM CLEANING SYSTEMS

Clean without clutter—Lengthen machine life—Better working conditions

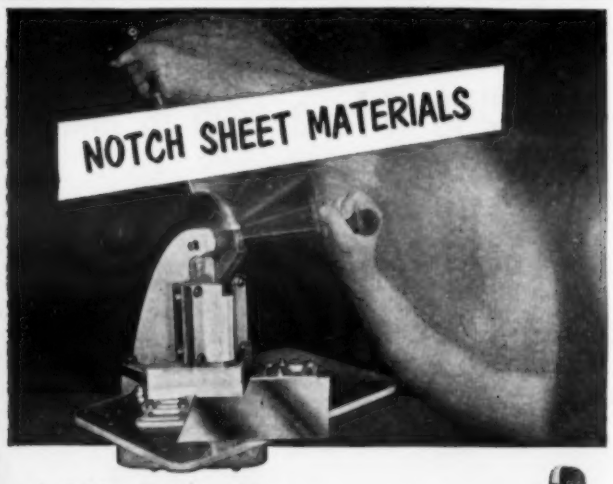
Get ALL the facts...requirements, schematic layouts, dimension and application tables, installation drawings, photos, and lots more ...in the Lamson Exidust System Catalog—*yours for the asking!*

LAMSON CORPORATION
2005 Lamson St., Syracuse 1, N. Y.

LAMSON

Plants at Syracuse and San Francisco

▲ For more details circle **NED-569 E4** on enclosed inquiry slip ▲



Quickly, Easily with a

DI-ACRO* NOTCHER

Speed up notching operations, eliminate the need for heavy presses and dies. A 6"x6" notch is made in 16 gauge material in one operation. Also perform many shearing jobs.

NEW DI-ACRO POWER NOTCHER

Especially designed for operations where a high rate of production must be maintained. Motor driven flywheel and all moving parts housed in welded steel cabinet.

WANT MORE INFORMATION?

Send for 32-Page Catalog

*pronounced DIE-ACK-RO

Creators of "DIE-LESS DUPLICATING"

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MANUFACTURING CO.
354 8th Avenue, Lake City, Minn.

▲ For more details circle **NED-570 E4** on enclosed inquiry slip ▲

NEW STRAPPING TAPE

Brainard now offers complete service—steel strapping and strapping tape

● The Brainard Strapping System, comprising a complete line of steel strapping, tools, and accessories, has now been expanded to include strapping tapes, both pressure-sensitive and gummed, and dispensers for all applications. The tapes are filament-reinforced to provide high tensile strength, and are designed for strapping applications. Brainard is the first company to offer both strapping methods. Brainard can give you unbiased recommendations on the best method for your applications. Most shipping departments and packaging lines can use both steel strapping and strapping tape to advantage.

Brainard — STEEL DIVISION SHARON STEEL CORPORATION

For booklet write
BRAINARD STEEL DIVISION
Dept. HH-5, Griswold Street
Warren, Ohio

▲ For more details circle **NED-571 E4** on enclosed inquiry slip ▲

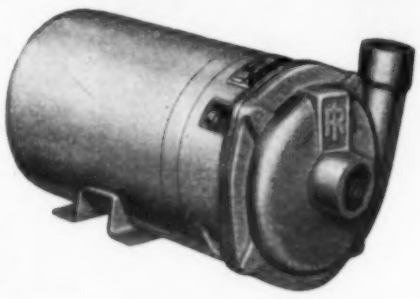
ROTATING JOINTS can be repaired in field

Designed to provide rotating sealing connection between stationary supply pipe and revolving cylinder or drum, redesigned Rotary Union joints can be repaired in the field. They incorporate low friction ball bearing and mechanical seal construction and are available in ¼ through 2-in. pipe sizes for steam, water, air, gas or oil applications up to 250 psi. Conversion field repair cartridges are available for former factory sealed units now in service. Made by **Perfecting Service Co.**, Dept. D, 332 Atando Ave., Charlotte 6, N. C.

▲ For more details circle **NED-572 E4** on enclosed inquiry slip ▲

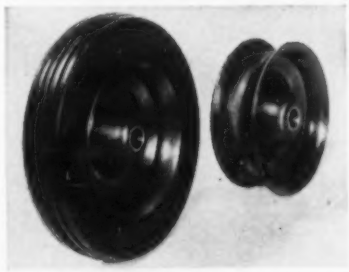
MOTOR PUMP for air conditioning applications

Type KRVSA Motorpump is a centrifugal unit designed for air conditioning applications. Standard motors, rated at ⅓ to 1 hp, enable pump to deliver capacities up to 48 gpm at heads up to 100 ft. Mechanical seal consisting of a rotating ceramic face against a stationary Teeplelite face prevents stuffing box drips and eliminates motor overloads. Die cast bronze impeller is used. Made by **Ingersoll-Rand Co.**, News Service Dept., Phillipsburg, N. J.



▲ For more details circle **NED-573 E4** on enclosed inquiry slip ▲

ONE-PIECE PLASTIC WHEEL for low speed mobile equipment

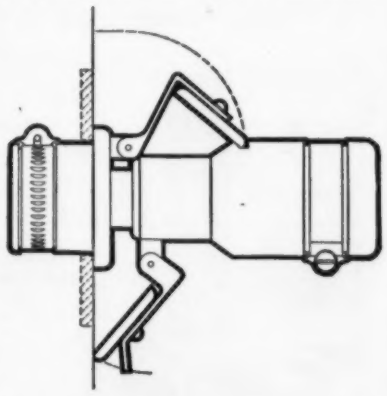


Rotary - type lawn mowers, mobile shop trucks and other low speed portable units are applications of these one-piece plastic wheels designed for 6 x 1.50 semipneumatic tires. Wheels are of Kralastic material and are molded without sharp edges that might damage tires when being mounted. Eleven standard colors are available. Bore size on hub is ½-in., either with or without bronze bearing, and bore lengths of 1⅜ or 1½ in. are obtainable. Made by **Northwest Plastics, Inc.**, Dept. N, 65 Plato Ave., St. Paul, Minn.

▲ For more details circle **NED-574 E4** on enclosed inquiry slip ▲

POWER PLUG & RECEPTACLE snap covers seal out water

Rapid disconnect power plug and receptacle for use on tractors, stationary engines or any other portable or stationary prime power source are waterproof and carry two 200-amp contacts for No. 0 cable with 110 to 440-v service. They are designated No. 20295-1 and 20296. Cable entry is water-sealed with worm screw clamp. Shell is steel and synthetic rubber, with steel plates cadmium plated to resist corrosion. Spring actuated covers protect plug and receptacle against moisture, dirt and other contamination by closing when not in use. Heavy silver plated contacts can be removed for soldering, inspection or replacement. Made by **Cannon Electric Co.**, 418 West Ave. 33, Los Angeles 31, Calif.



▲ For more details circle **NED-575 E4** on enclosed inquiry slip ▲

Brand Spanking New!

MEYCO CONTROLLED CUT CARBIDE TIPPED SAFETY SAW

★ The latest addition to the famous MEYCO line of precision cutting tools. This new controlled cut, carbide tipped safety saw has many advantages: It's SAFE: will not pull hand into the blade, will not grab and kick-back work. It's ECONOMICAL: costs less to buy, longer life between grinds; cuts smoother, longer. Its CONTROLLED CUT regulates rate of feed, assures clean cut; makes chips instead of saw dust. Available at leading mill supply and hardware houses, or direct from factory. Write for fully descriptive literature and price list. Ask for Catalog No. 19.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

▲ For more details circle **NED-576 E4** on enclosed inquiry slip ▲

Seam-Free Work Surface!

***on New* PIONEER**

Stanflex

Plastic-Coated Work Gloves

Custom-fit, single seam lining (pat. pend.)—no seams on face of fingers, thumb, palm to chafe hands, wear out first. Elastic-knit jersey shapes to hand.

Wing-style thumb, curved fingers fit naturally, complete action freedom.

Tough bonded-vinyl coating won't peel or crack, always flexible, has amazing resistance to cuts, snags, abrasion—outwears leather. Satin-finish gives positive over-all grip. Water-tight, resists oils, acids, caustics, most chemicals.

PIONEER Stanflex plastic-coated work gloves available in knit wrist gauntlet, band top styles. Write today for complete information.

the PIONEER Rubber Company
234 Tiffin Road • Willard, Ohio

PIONEER Stanflex

Quality Gloves for 35 years

▲ For more details circle **NED-577 E4** on enclosed inquiry slip ▲

PIC Steel Unions

Makers of new equipment get both looks and performance with Pics on 150# service. Bright and cheerful looking, Pics help sell the merchandise. Soundly built, their special wedge type bronze seat gives tight, safe closure. Ends are heavy steel pipe coupling stock, uniformly flat sided to take open end wrenches for fast installation. Overall zinc plating (including threads) protects against rust. Pics have a price advantage also — they cost *less* than a galvanized, *no more* than a black malleable union!

Write today for FREE Samples

DART UNION COMPANY
132 Thurbers Avenue, Providence 5, R.I.
The Fairbanks Co. — Distributors
Boston • New York • Pittsburgh • Rome, Ga.

For more details circle NED-578 E4 on enclosed inquiry slip

. . . NEVER SEEN A SMOOTHER OPERATING SHEAR

The Enos & Sanderson Company, a leading steel warehouse in Buffalo, writes concerning their 1/4" x 12' Steelweld Shear:

"We are extremely satisfied with the operation of this unit and would recommend this machine highly to anyone. A rigger, who set up this shear for operation, remarked that, in his twenty-five years of work with shears of all types, he had never seen a smoother operating shear in his experience."

STEELWELD Pivoted-Blade SHEARS CATALOG No. 2011

Send for free copy of catalog No. 2011.

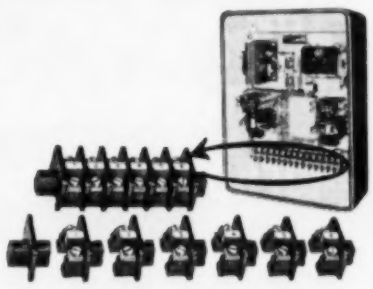
THE CLEVELAND CRANE & ENGINEERING CO.
6641 E. 282nd St., Wickliffe, O.

STEELWELD SHEARS

For more details circle NED-579 E4 on enclosed inquiry slip

Make Your own Terminal Strips with these Handy

Bulletin 892 Terminal Blocks



Bulletin 892 terminal blocks interlock in perfect alignment to provide the exact number of terminals for any panel board. There are no excess terminals — hence, no waste of panel space. The required terminal strip can be assembled quickly and mounted on the panel with hold-down bolts. Plastic barriers separate the clamp-type terminals. All terminals have wire clamps. Write for full details.

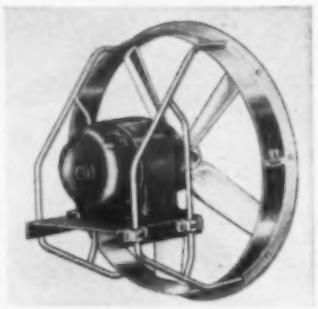
Allen-Bradley Co.
1334 S. Second St.
Milwaukee 4, Wis.

A-B

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

For more details circle NED-580 E4 on enclosed inquiry slip

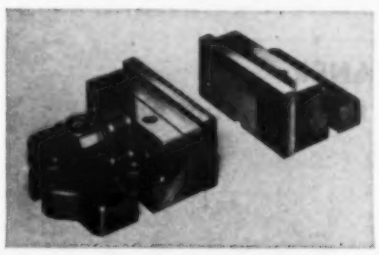
DIRECT DRIVE FAN for heavy duty applications



Heavy duty fans of direct drive type are designed for industrial applications where a large volume of air is required under static pressure. Ring mounted units are available in diameters from 12 in., delivering 980 cfm air, to 48 in. delivering 32,400 cfm air. Totally enclosed motors are furnished ready mounted so that installation costs are minimized. "Axial flow" cast aluminum alloy blades are used. Made by **M & E Mfg. Co.,** 2533 Winthrop Ave., Indianapolis 5, Ind.

For more details circle NED-581 E4 on enclosed inquiry slip

METALWORKING VISE uses T-slot table as base



Any T-slot table can be utilized as the base for this two-piece Repco vise set, providing a capacity limited only by length of machine table. Used independently, rigid base serves as angle block, while adjustable clamp base can be used as separate clamping device to hold work against stops. Key slots are provided in both directions for locating vise either parallel to or at right angle to table slots. Eight 1/2-13 tapped holes accommodate hold down straps, stops, etc. Soft jaws are available to hold shafts between centers for milling slots, flats and keyways. Jaw widths of 6 or 8 in. and key slots of 11/16 or 13/16 in., respectively, are available. Made by **Rockford Engineered Products Co.,** Dept. 101, 2324 23rd Ave., Rockford, Ill.

For more details circle NED-582 E4 on enclosed inquiry slip

WOVEN MEASURING TAPE resists abrasion, cracking, mildew

Repeated soaking and drying of the "miracle" fibers used in the manufacture of the Hi-Line nonmetallic woven measuring tape will not affect its dimensional stability. Markings are protected by plastic that resists abrasion, cracking, mildew, moisture and temperature changes. Case is made of leather. First end of the tape, point of greatest wear, is reinforced with green plastic. Markings are such that total reading is always at point of measurement. Made by **Lufkin Rule Co.,** Hess St., Saginaw, Mich.

For more details circle NED-583 E4 on enclosed inquiry slip

FLOOR MAINTENANCE MACHINE brush has 12-in. bristle flare

Model S12-B Aero floor maintenance machine for use on small floor areas has a brush with a 10 1/4-in. block and a 12-in. flare. With attachments, it will scrub, polish, sand and steelwool all floors, and with tank assembly, it can be converted to wet scrubbing. The 42-lb machine features the Uni-Drive in which a Neoprene-treated, steel-reinforced cable equipped with cogs meshes into toothed pulleys. Power is provided by a capacitor type heavy duty 1/4-hp motor through a 35-ft rubber covered trailing cord. Made by **United Floor Machine Co.,** 7711 S. Chicago Ave., Chicago 19, Ill.

For more details circle NED-584 E4 on enclosed inquiry slip

Specify CONTINENTAL UST IDLERS

- UNIT-SEALED
- TIMKEN BEARINGS
- PRE-LUBRICATED

Saves GREASE! Saves LABOR! Saves BELTS!

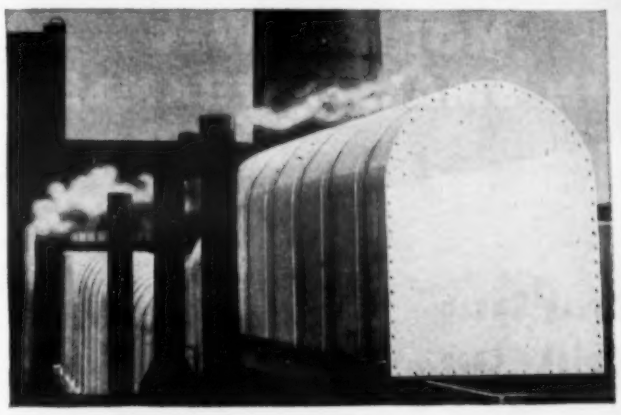
If you use belt conveyors—you need Continental Idlers!

Write for Bulletin NED-116

ALL SIZES! ALL TYPES! CG-5302

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
Birmingham 2, Ala.
ATLANTA • DALLAS • MEMPHIS • NEW YORK

For more details circle NED-585 E4 on enclosed inquiry slip



Boiler breeching, Southland Paper Mills, Inc., Lufkin, Texas.
Aluminum Paint: High Heat Aluminum, Napko Paint & Varnish, Houston, Texas.

One coat of ALUMINUM PAINT protects exposed boiler breeching for more than 20 months!

Painted with *one coat* of aluminum paint, this boiler breeching had been subjected to atmospheric exposure for twenty months when the photo was taken. The paint was in excellent condition, good for many more months of protection. An application such as this, where most paints fail within six months, is an outstanding testimonial to the remarkable service life you can expect from the *right* aluminum paint.

Alcoa does not make paint . . . but ALCOA Aluminum Pigments are used in *more* aluminum paints than any other brand. ALCOA's co-operation with paint manufacturers has made possible many special formulas designed to solve your toughest problem. Aluminum paint offers the utmost in brightness and protection.

Ask your paint supplier about specially formulated aluminum paints—or tell us your problems. We'll gladly recommend the correct type of aluminum paint for your job.

Send coupon for FREE BOOKLET, *Painting with Aluminum*
Aluminum Company of America, Paint Service Bureau
1788-E Alcoa Building, Pittsburgh 19, Pa.

Name_____
Company_____
Address_____
City_____ Zone____ State____

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

For more details circle NED-586 E4 on enclosed inquiry slip

Speedways Conveyors NEW Speed TABLE

The power belt conveyor with Custom-specified utility at Standard-line prices

10 foot increments easily bolt together. Powerful SpeedDrive motor can be located in any section of line.

for inspection line • assembly line • work tables order make-up conveyor • shipping-receiving conveyor

All or any of these operations can be accomplished with a single Speedtable installation. This is the exciting feature of SpeedTABLE for it has a flexibility of use . . . it can easily be lengthened or shortened, disassembled and set up again in other areas of your plant to do many duties.

It is a revolutionary idea in belt conveyor design . . . that can revolutionize your materials handling methods. Write for complete details and low, low prices today. Ask for new SpeedTABLE BULLETIN C345

SPEEDWAYS CONVEYORS

202 Rhode Island St. Buffalo 13, N. Y.

▲ For more details circle NED-587 E4 on enclosed inquiry slip ▲

MORE POWER IN SMALLER FRAMES

Saves Space Weighs Less...

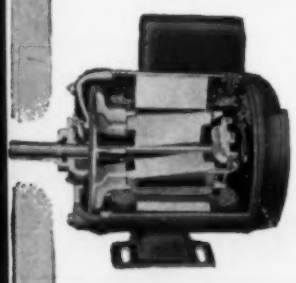
NEW Century

Form "F" Fractional H.P. Motors

Now available in 1/8 to 3/4 H.P.

Thanks to new techniques developed in the last several years, this *smaller* power package combines improved performance with even greater Century dependability.

1. More uniform silicon laminated steel in magnetic cores.
2. Improved plastic insulated wire in coils.
3. New, extremely tough, plastic slot insulation.
4. More effective thermal setting plastic varnish insulation on windings.
5. Improved high-pressure die-cast aluminum rotors. Individually dynamically balanced.
6. Better ventilation.
7. These new Century Motors incorporate all mechanical features proved effective in thousands of varying applications.



For full details on Century Fractional H.P. Motors—write for bulletin 1-5 Page 1. Century also offers a wide range of types and sizes in AC and DC . . . 1/8 to 400 H.P.

832A

CENTURY ELECTRIC CO.
1806 Pine Street
St. Louis 3, Missouri

Offices and Stock Points in Principal Cities

Century C MOTORS

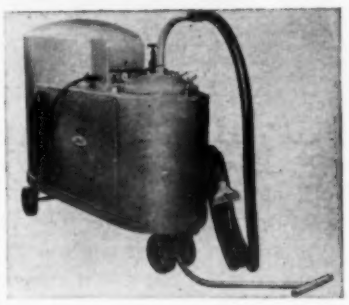
▲ For more details circle NED-588 E4 on enclosed inquiry slip ▲

SMALL ENGINE STARTER
nylon rope rewinds into housing

Small gasoline engines are easily converted for rewind starting by this Bulldog starter which has self-contained nylon rope that automatically rewinds into starter housing ready for next pull. It can be mounted in 10 to 20 minutes. Packed complete with mounting instructions and all necessary hardware, available styles fit most makes and models of small engines. Starters for vertical shaft engines are equipped with E-Z pull attachment that permits pulling upward. Made by **Armstrong Products Co.**, Dept. N, 6450 N. Teutonia Ave., Milwaukee, Wis.

▲ For more details circle NED-589 E4 on enclosed inquiry slip ▲

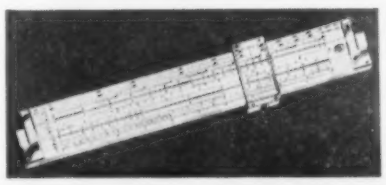
SUMP TANK CLEANER
reconditions machine tool oils



Designed to speed up cleaning of machine tool sump tanks and to eliminate usual messiness of the operation, model 20-T series NS portable sump tank cleaning machine reconditions sump oils at the rate of 20 gpm for average weight oils. It utilizes a high vacuum to pass oils, sludge, chips and other contaminants through a centrifugal cloth bag filtering system. Oil is stored temporarily after cleaning. Pumping unit is then reversed and cleaned oil returned to the machine. Cleaner is available with 100 and 150-gallon tank capacities, and replaceable filter bag has a 100 lb capacity. Neoprene suction hose is provided. Made by **W. R. Carnes Co.**, Dept. D, S. Main St., Verona, Wis.

▲ For more details circle NED-590 E4 on enclosed inquiry slip ▲

IMPROVED SLIDE RULE
trigonometric scales color-coded



Addition of $Root_1$ and $Root_2$ scales and use of these scales in combination with C and D scales equip this 10-in. Versalog slide rule with accuracy equivalent to that of 20-in. rule. These combinations are useful in computation of squares, square roots, kinetic energy, moments of inertia and similar calculations. Color-coding of trigonometric scales simplifies their use in conjunction with C, D and C1 scales. Fourth set of LL and LLO scales is added to increase range over that of conventional rules. Made by **Frederick Post Co.**, 3650 N. Avondale Ave., Chicago 18, Ill.

▲ For more details circle NED-591 E4 on enclosed inquiry slip ▲

WHEATSTONE BRIDGE
portable unit is compact

Precision, compactness and rapid action are combined in the model 185R Wheatstone bridge, a portable instrument developed for selecting resistors to close tolerances and for precision measurement of circuit resistance. Made in Austria, it measures resistances from 0.05 to 50,000 ohms in five ranges with built-in multipliers. Three middle ranges have accuracies of plus 0.5-per cent. Operation is on a replaceable 4.5-v battery, from an external source of 4 v or, with an adapter, from a 115-v 60-cycle line. Distributed by **United Optical Mfg. Corp.**, 202-4 E. Nineteenth St., New York 3, N. Y.

▲ For more details circle NED-592 E4 on enclosed inquiry slip ▲

For specifications and prices on the complete line of Ballymore Safety Step Ladders, send for free catalog. Ballymore Company, Wayne 3, Pa.

Ballymore SAFETY LADDERS

BALLYMORE SAFETY STEP LADDERS

▲ For more details circle NED-593 E4 on enclosed inquiry slip ▲

Let Hartzell Fans Help You Beat the Heat This Summer

COOL BLAST

UTILITY

Heat, dust and fumes mean low morale and efficiency, higher accident rates and increased absenteeism. But Hartzell fans can clear away those annoying elements before they start trouble.

Rugged Hartzell cool blast fans can disperse the heaviest concentrations of heat and fumes. Stationary and portable models, 22" to 40", and the extra-strong heavy duty model, 44" to 60".

The versatile Hartzell utility fan has aptly been termed "the handy fan of industry." Mount this compact, powerful unit on the wall or ceiling, or set it on the floor. It rotates in a full circle, locks in any position. 14" to 36". Larger sizes are also available mounted on a sturdy two-wheeled carriage.

Let your nearby Hartzell representative show you how these Hartzell fans can help you beat the heat this summer. Proper summer ventilation will pay for itself as increased output per man-hour and production dollar.

HARTZELL propeller fan co.
Div. of Castle Hills Corp.
Dept. G. PIQUA, OHIO

ENGINEERING OFFICES IN PRINCIPAL CITIES

▲ For more details circle NED-594 E4 on enclosed inquiry slip ▲

Longer Life... Greater Accuracy WITH WENDT-SONIS Carbide Tools

Wendt-Sonis carbide tools are made of the finest materials to the highest quality workmanship to give you . . . longer tool life . . . greater accuracy. This has been proved in actual tests. Write today for your copy of the new catalog on the complete line of W-S carbide tools.

Also, get this new FREE Feed and Speed Calculator. Write Dept. NE-5.

WENDT-SONIS COMPANY
HANNIBAL, MISSOURI
576 N. Prairie Ave. Hawthorne, Calif.
5308 W. Diversey Chicago, Ill.

▲ For more details circle NED-595 E4 on enclosed inquiry slip ▲

SCIENCE MAKES POSSIBLE

FUSED EDGES

U. S. PATS: 2521964 2521965

Vacuum cleaner air filter and a sweat band, both with sealed edges.

Thermoplastic man-made fibres can be felted and fabricated into special parts for assembly or use without further processing. The felt within the edges can have any desired porosity, within wide limits. Thus these fused-edge felts have great versatility, and are capable of rendering many different services. It will pay you to look into what they can do for you. Write for information on your company letterhead.

SOME PRESENT USES
Vacuum cleaner filters
Powdered soap containers
Face powder pads
Insulation
Clothing lining
Fluid filters
(The field has barely been scratched!)

American Felt Company
TRADE MARK

62 GLENVILLE RD. GLENVILLE, CONN.

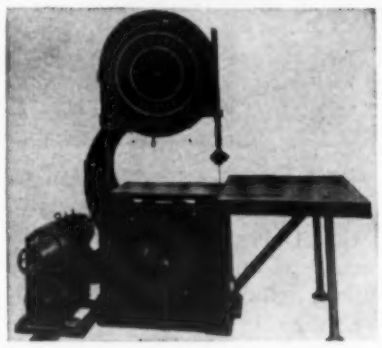
For more details circle NED-596 E4 on enclosed inquiry slip

MINIATURE DC INSTRUMENTS
portable units are self-shielded

Instruments comprising the model 281 miniature portable direct current line can be used in close proximity to magnetic material without affecting their accuracy. The built - in self - shielded core magnet mechanism provides shielding against the magnetic field created by a conductor carrying 15,000 amp at a distance of 3 ft. Resulting temporary error in indication is less than 1 per cent. Equipped with Bakelite case, instruments withstand a dielectric test of 2600 v ac root-mean-square between case and terminals. Scales are hand calibrated and size is approximately 4½ x 4½ x 1½ in. Made by **Weston Electrical Instrument Corp.**, 617 Frelinghuysen Ave., Newark 5, N. J.

For more details circle NED-599 E4 on enclosed inquiry slip

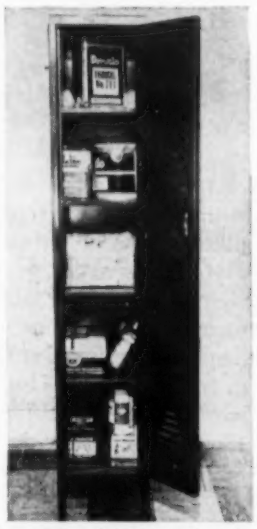
METAL CUTTING BAND SAW
blade speed from 1000 to 6000 fpm



Extra heavy table construction of No. 115-S metal cutting band saw makes it suitable for cutting heavy plates or castings. Machine is designed with nontilting table having two frictionless rollers and two ball transfers at right of saw. Right hand table measures 42 x 42 in., left hand table, 18 x 36 in. Saw has 38-in. diameter wheels with 21½ in. capacity under guide. Reeves 5-hp variable speed motor drives wheel at from 100 to 600 rpm to produce blade speed from 1000 to 6000 fpm. Made by **Oliver Machinery Co.**, 1033 Coldbrook St. N. E., Grand Rapids 2, Mich.

For more details circle NED-600 E4 on enclosed inquiry slip

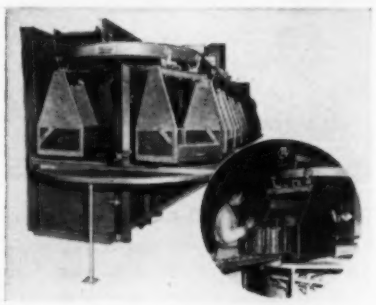
UTILITY CABINET
has four shelves



General purpose Steel-Pride utility cabinet has four shelves, adjustable on 2-in. centers, chrome door handle and full flush sanitary base. Slides, door and frame are interlocked over their entire length by tight-U-turn linkage at the joints to provide rigidity and pilfer protection. Cabinet, which occupies approximately the same space as a standard locker, is available in Forest Green or Office Gray finish. Made by **Steel Service Mfg. Co.**, 330 N. Seventh St., Steubenville, O.

For more details circle NED-601 E4 on enclosed inquiry slip

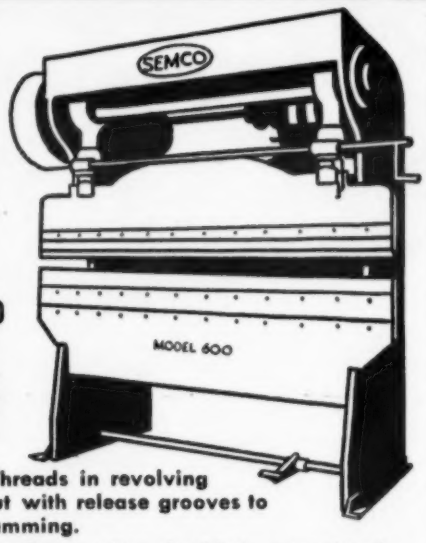
PARTS CLEANING MACHINE
is automatic multistage unit



Consisting of a series of independent self-contained dipping units actuated by an automatic conveyor system, Aja Lif Automatic multistage batch cleaning and processing method is adaptable to production cleaning of both small and large metal parts. It can be designed for any number of acid or alkaline stages and also for drying operations. Timing cycle can be varied to suit individual job requirements. During the dipping stage, parts are vigorously agitated up and down in the various solutions. Unit is air powered to minimize fire hazards and can be installed without foundation in any existing production line. Made by **Magnus Chemical Co.**, Dept. NED, Garwood, N. J.

For more details circle NED-602 E4 on enclosed inquiry slip

NEW PRESS BRAKE
IN TWO SIZES
6 FT. and 8 FT.
•
LOW PRICED
•
BIG PRESS FEATURES



- Buttress Threads in revolving bronze nut with release grooves to prevent jamming.
- One Piece Construction (welded, normalized, machined in one piece).
- Ball and Roller Bearings throughout.
- Fine adjustment.

Made by the makers of famous SEMCO "34 YEAR" BRAKE DIES.

Write for NEW color folder and prices of PRESS BRAKES and 26 standard BRAKE DIE designs. Send die specifications for estimate.

SEMCO
SERVICE MACHINE CO., INC.
202 MILLER STREET, ELIZABETH 4, N. J.

For more details circle NED-597 E4 on enclosed inquiry slip

RADIANT *Reflector Weatherproof* **LAMPS**
May cost you less than ordinary lamps

Radiant Weatherproof R-type Lamps give better service, last longer, and cost less to use under severe conditions than ordinary lamps. Ideal for high bays and outdoor areas. Available in 200 to 1000 watts, standard and high voltage.

Special glass resists breakage due to sudden temperature changes and moisture, reducing replacement expense and labor. Sealed-in silver reflector stays bright without maintenance. Costs less to install. No expensive enclosed fixtures needed indoors or outdoors. Send for Bulletin 83.

RADIANT LAMP CORPORATION
315 Jelliff Avenue, Newark 8, N. J.
Manufacturers of Lamps from 50 to 10,000 watts

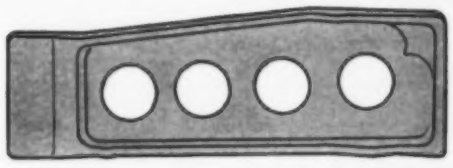
For more details circle NED-598 E4 on enclosed inquiry slip

MUELLER BRASS CO.

ALUMINUM FORGINGS

- STRONG AS STEEL BUT 1/3 THE WEIGHT.
- GOOD DIMENSIONAL STABILITY . . . MECHANICAL PROPERTIES RETAINED AT HIGH SPEEDS AND REASONABLE TEMPERATURES.
- REQUIRE LESS MACHINING AND FINISHING.
- FORGED TO YOUR SPECIFICATIONS.

MUELLER BRASS CO. • PORT HURON 27, MICHIGAN



102

For more details circle NED-603 E4 on enclosed inquiry slip

At Last!
The first
TRULY PORTABLE
ELECTRONIC SCALE
20 TON CAPACITY
in "BRIEF CASE" SIZE

Carry it where you need it... weighs only 35 lbs.

Faster, easier weighing at lower cost

You can weigh large loads anywhere, with this lightweight, high-capacity weight indicator. Take it from place to place—carry it like a brief case—or, if you wish, install it for permanent operation. Dial may be placed at the work or connected through extension cord for remote reading. Nothing to get out of order—no vacuum tubes, no fragile parts. Unaffected by temperature, weather or rough usage. Recordings are instantaneous and accurate.

This radically new and efficient weight indicator offers endless opportunities for time and cost savings in materials handling and processing. Think of the possibilities in *your* work!

Send for complete literature. Engineered applications also available for built-in installations.

CONTROL CELLS CORPORATION
511 North Hillside
Wichita 6, Kansas

Control Cells

CONTROL CELLS CORPORATION
Engineering Department
511 North Hillside, Wichita 6, Kansas

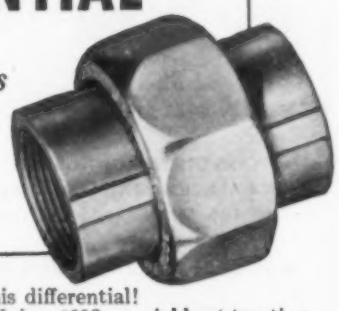
Please send me complete information about your new Electronic Scale.

Name.....
Position.....
Firm.....
Address.....

For more details circle NED-604 E4 on enclosed inquiry slip

NOW! HARDNESS-DIFFERENTIAL

built into seats of new UNION #603



No other Union has this differential!

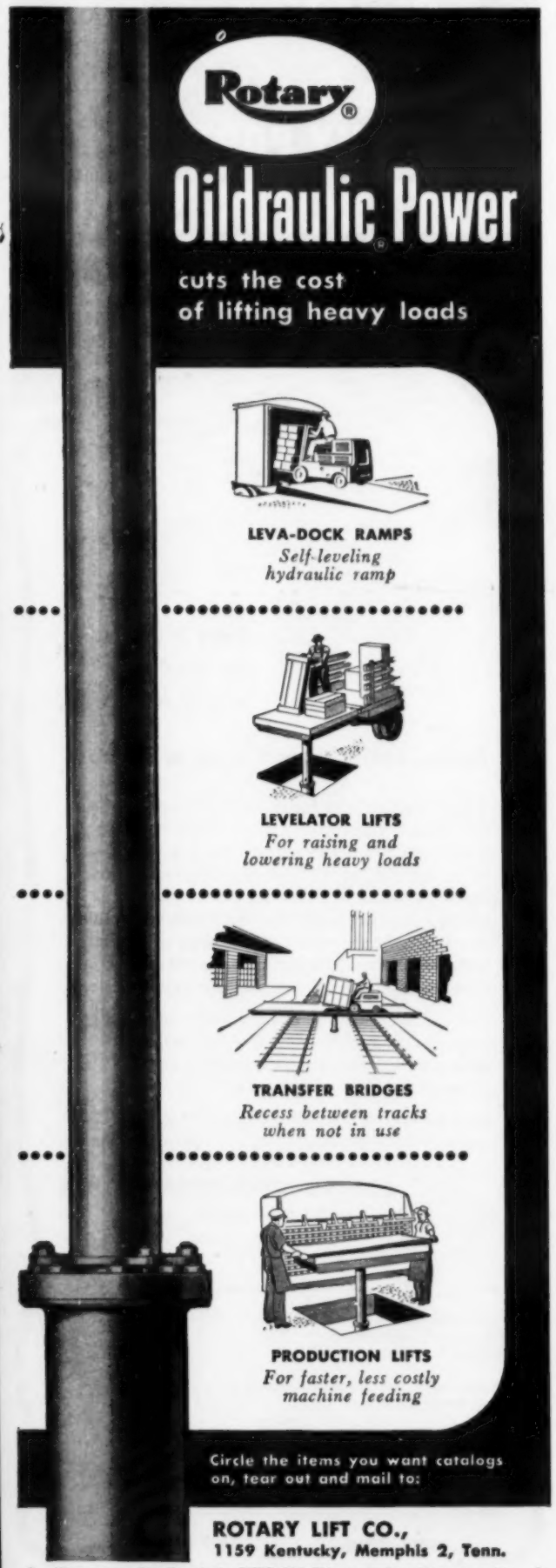
In the new Rockwood Union #603, special heat treating of the male seat gives it a greater degree of hardness than the female seat. Result: *no galling in "making up" — longer service.*

Corrosion-resistant AIST molychrome steel seats are forged in place — double-locked under 100,000 and 400,000-pound pressure.

Other features: exclusive Rockwood cold forging process results in resistance to tough working conditions, permits absolutely interchangeable parts. Exclusive "Rockwoodizing" protects corrosion. For further details, write Rockwood Sprinkler Company, 44 Harlow Street, Worcester 5, Mass.

ROCKWOOD SPRINKLER COMPANY

▲ For more details circle **NED-605 E4** on enclosed inquiry slip ▲



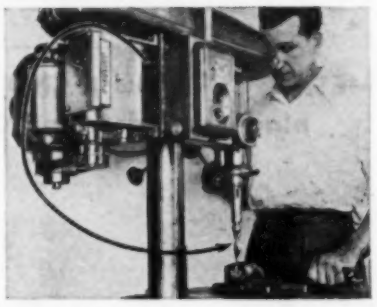
▲ For more details circle **NED-606 E4** on enclosed inquiry slip ▲

SOLENOID VALVE gives automatic flow control

Automatic "on and off" control of water or air flow is provided by piston-type solenoid operated Electroflo valve with "anti-water hammer" feature. Pilot action provides large flow capacity. Valve permits flow only during required periods. It is built of noncorrosive parts, is packless in construction and is made in 3/8, 3/4 and 1 1/4-in. pipe sizes. Made by **Hays Mfg. Co.**, 804 W. Twelfth St., Erie, Pa.

▲ For more details circle **NED-607 E4** on enclosed inquiry slip ▲

FOUR-SPEED TRANSMISSION used as reducer or step-up drive



Gilmer timing belts and pulleys are utilized by model 4B-1 four-speed 1-hp transmission which can be used as a reducer or step-up drive on small drill presses, lathes, millers and grinding headstocks. Lightweight unit requires no lubrication and can be used in vertical, angular or horizontal position, with input shaft up or down. Overall ratio is 4:1, and speed changes are made instantly through shift-lever handle. Photo shows installation on Delta drill, enabling operator to obtain 20 changes of spindle speed—four through the transmission multiplied by the five-step-up cone pulley. Made by **Western Mfg. Co.**, 3428 Scotten Ave., Detroit 10, Mich.

▲ For more details circle **NED-608 E4** on enclosed inquiry slip ▲

POLISHING STAND for optical polishing paper

Portable polishing stand for optical polishing paper holds paper taut, preventing dubbing edges of work due to buckling or raised portions. Stand is recessed at one end to take a 50-yd roll of 12-in. wide paper which is then threaded across steel plate lapped to high degree of flatness. Paper is clamped across the plate, presenting a 12 x 12-in. surface and is then tightened by two jacks screws which elevate the platform. Applications include polishing work prior to inspection during surface grinding or lapping. Equipment can be used in laboratories or on short run polishing work. Made by **Crane Packing Co.**, Dept. NDC, 1800 Belle Plaine Ave., Chicago, Ill.

▲ For more details circle **NED-609 E4** on enclosed inquiry slip ▲

AIR & HYDRAULIC VALVES improvements made on single and double solenoid models

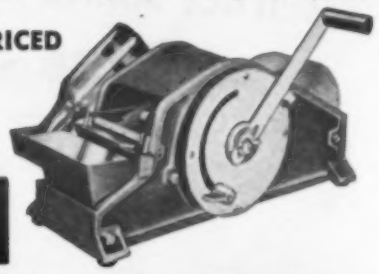
Industrial-type, heavy-duty solenoids are embodied in improved Hi-Cyclic single and double solenoid air and hydraulic valves. Other improvements include nylon end thrust bushings for positive valve piston location; elimination of need for solenoid adjustment; dust and moistureproof solenoid enclosure; removability of solenoid coil without disturbing electrical circuit; and valve part interchangeability.

Electrical leads are channeled from one 1/2-in. conduit located at base of valve. Both valve base and solenoid housings are aluminum castings. Mountable in any position, valves are available in 1/4, 3/8 and 1/2-in. NPT ports for air and 3/8-in. NPT ports for hydraulic medium. Sizes up to and including 1 in. will be available. Made by **Beckett-Harcum Co.**, 1139 Wayne Rd., Wilmington, O.

▲ For more details circle **NED-610 E4** on enclosed inquiry slip ▲

Another Triumph of Derby's Designing and Engineering Skill!

THE MEDIUM PRICED Super DERBY "152"



SENSATIONAL DISPENSER DELIVERS PREDETERMINED LENGTHS OF GUMMED TAPE UP TO 30", (1" TO 3" WIDE)

Priced far lower than any machine of comparable quality now on the market, the new Derby "152" has amazing versatility and durability. Its exclusive Derby "Moisture Control System" provides a completely moistened tape every time — and its unique brush design makes unnecessary the usual two brush arrangement. For industrial packaging, specify Derby "152".

A DERBY FIRST
Stainless steel cut-off blade, guaranteed for life of machine.

LOOK AT THESE QUALITY DERBY FEATURES

- Exclusive spring clutch feed
- Visible auxiliary water reservoir
- Adjustable, vari-length handle
- Larger interlocking side frame construction
- Measuring feed stop
- Automatic tape cut-off
- Visual measuring scale
- Water heater available at extra cost

See your dealer or write

DERBY SEALERS INC. Derby, Conn.

▲ For more details circle **NED-611 E4** on enclosed inquiry slip ▲

How can YOU use Aero-Seal HOSE CLAMPS?

• AERO-SEALS — the finest hose clamps made, were designed for aviation and automotive use. Precision worm gear drive tightens evenly without damaging hose or material, stays locked with a never-let-go grip. Stainless steel bands resist corrosion. Application and removal takes mere seconds. Re-usable over and over.

Design engineers, production and maintenance men find AERO-SEALS perfect for many special uses. Your product or plant can use them, too. Available in the widest possible range of sizes. Write for details.

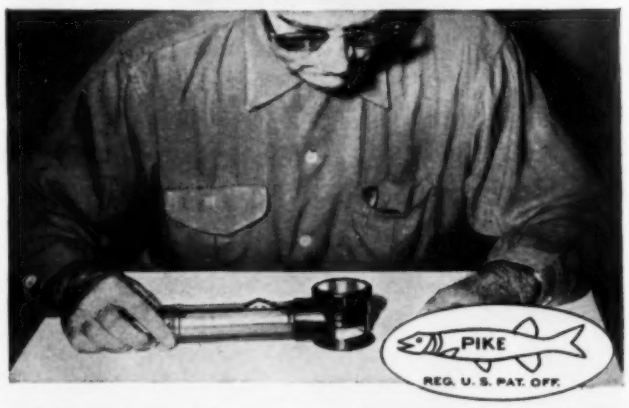
Aero-Seal® PRECISION WORM DRIVE HOSE CLAMPS

ANOTHER BREEZE MARK PRODUCT

BREEZE CORPORATIONS, INC. 700 Liberty Ave., Union, N. J.

▲ For more details circle **NED-612 E4** on enclosed inquiry slip ▲

ANOTHER FLASH-O-LENS AT WORK AIDING METALLURGICAL INSPECTION AT U.S. Steel



Rigid standards of inspection guard every production step in the plants of the world's largest steel maker. Here a U. S. Steel metallurgist checks a sample of tin plate for surface imperfections with a FLASH-O-LENS, the unique inspection tool that illuminates the area it magnifies.

If minute visual inspection plays a part in quality control of your product, chances are you can save time, increase accuracy with FLASH-O-LENS. Made in battery and plug-in models and in a wide range of precision lenses to meet *your* needs. Prices from $10.65.

For fully descriptive literature write . . .

E. W. PIKE & COMPANY, Inc.
492 NORTH AVENUE ELIZABETH 3, NEW JERSEY

▲ For more details circle **NED-613 E4** on enclosed inquiry slip ▲

FREE

NEW EXHAUST FAN CATALOG

Here is valuable data on how to plan effective exhaust fan installations, plus complete specifications of Emerson-Electric Exhaust Fans. Send today for Bulletin No. 775.

THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

EMERSON ELECTRIC
FANS • MOTORS APPLIANCES

For more details circle NED-614 E4 on enclosed inquiry slip

CAN YOU REMOVE THIS BROKEN TAP FOR 18¢?

A ½" x 13 broken high speed tap embedded in ¾" Brown & Sharp die stock.

Remains of broken tap after being removed by the Elox M-300 Electron Drill*.

Electrode (tool) used	.290" copper tubing
Set-up Time	60 Seconds
Cutting Time	180 Seconds
Clean-up Time	60 Seconds
	300 Seconds or 5 Minutes
Electrode Cost:	$0.02
Labor Cost:	.15 (@ $1.80 per hour)
Electricity approx.	.01
TOTAL COST:	$0.18

LET US SHOW YOU HOW

elox corporation of michigan *T.M Reg.

738 N. Rochester Road • Clawson, Michigan

For more details circle NED-615 E4 on enclosed inquiry slip

GUARANTEES PERFORMANCE of SPEEDAIRE

ALL Cleveland Speedaire units are pre-tested under *actual job load.* This final check assures you that every Speedaire you buy is *right and ready* for the job.

Speedaire is Cleveland's fan-cooled worm gear speed reducer. Because of the reduction in unit size that its use permits, a Speedaire unit *costs materially less* per horsepower transmitted.

Write for Catalog 400 for full engineering data on Speedaire and all other Cleveland units. The Cleveland Worm and Gear Co., 3283 E. 80th St., Cleveland 4, Ohio.

CLEVELAND WORM GEAR
Speed Reducers

Affiliate: The Farval Corporation, Centralized Systems of Lubrication

For more details circle NED-616 E4 on enclosed inquiry slip

PORTABLE HACKSAW & DRILL
has 110-120-v high torque motor

Production can be effectively stepped up with use of this Crown trademaster combination hacksaw and drill which is built to withstand severe use. Lightweight, compact unit has 110-120-v ac or dc high torque motor for quick starts. Conversion from saw to drill is done with simple turn of knob on side of tool and inserting drill in chuck. It accommodates up to ¼-in. drills. Saw blades measure ½ x 4 in. Unit is sold complete with adapter chuck, six saw blades and Allen wrench. Made by **Crown Controls Co.**, 224 S. Washington St., New Bremen, O.

For more details circle NED-617 E4 on enclosed inquiry slip

DIVINING RODS
locate buried tanks, pipes, cables

Underground pipe or tanks containing liquid and electrical cables can be located with Findzit aluminum divining rods. They are reported to operate by an unknown attraction exerted by the buried object and are hand held parallel to the ground while the operator walks slowly toward the spot where the object is thought to be. Rods begin to swing apart as this spot is reached and are completely apart when directly over the buried object. Depth can be found by standing with rods together over the spot, then backing up until they swing apart again. Distance between these two points denotes depth of buried object. Made by **Filtration Equipment Corp.**, Dept. A, P. O. Box 1331, Rochester 3, N. Y.

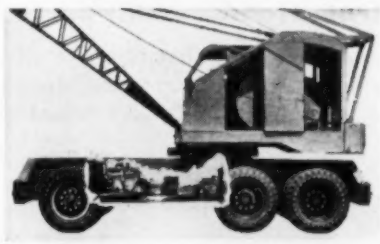
For more details circle NED-618 E4 on enclosed inquiry slip

GLASS PLUG FUSE
word "O.K." disappears when blown

When an overload or short occurs, part of the word "O.K." seen through the magnifying glass center of the Eagle glass plug fuse disappears. When fuse is blown, the entire "O.K." vanishes. Fuse is made to expel the gases caused by a blow, but will not allow any flame to escape. Hexagon centers distinguish 15 amp or less and colored disks identify amperage. Fuse is available in standard 10, 15, 20, 25 and 30-amp sizes and substandard 3, 6 and 8-amp sizes. It is UL listed. Made by **Eagle Electric Mfg. Co.**, 23-10A Bridge Plaza S., Long Island City 1, N. Y.

For more details circle NED-619 E4 on enclosed inquiry slip

CRANE CARRIER
has 20-25 ton capacity



All makes of cranes, shovels and trench hoes in the 20 to 25-ton class can be mounted on the model CW-312 crane carrier. Separate power supply permits independent travel and swing of the crane. Both crane and carrier are controlled from the operator's position in the crane cab. Hydraulic steering and air brakes are featured. Power train is made up of standard industrial equipment and consists of a 115-hp industrial gasoline engine, torque converter, three-speed-and-reverse transmission, auxiliary transmission with emergency and/or parking brake. All six wheels accommodate dual tires. Overall length is 21 ft, wheelbase is 152 in. and outside corner turning radius is 37 ft. Made by **Cook Bros. Equipment Co.**, Crane Carrier Div., 3334 San Fernando Rd., Los Angeles 65, Calif.

For more details circle NED-620 E4 on enclosed inquiry slip

An improved bonding cement for brick and tile

Superior workability, greater economy, and longer pot life are integral components of COROBOND . . . an improved synthetic resinous bonding cement for brick and tile. Acid, alkali, and solvent-proof . . . COROBOND spreads easily, will not extrude from bottom courses, and provides high mechanical strength. Liquid and powder are supplied in proper ratio to insure a perfect mix every-time. Longer pot life eliminates waste when large batches are mixed.

For faster curing, complete adherence to brick or tile, and long-lasting wear resistance, specify COROBOND bonding cement.

THE CEILCOTE CO.
CORROSION PROOF MATERIAL AND CONSTRUCTION
4838 RIDGE ROAD • CLEVELAND, OHIO

Write today for literature

1908-CO

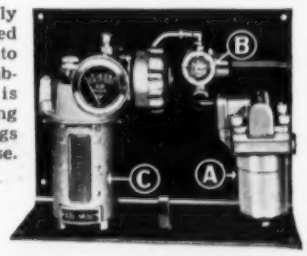
For more details circle NED-621 E4 on enclosed inquiry slip

On a single rolling mill . . . also saves plenty in maintenance, lubrication time and lubricant!

Before Oil-Mist was installed on this rolling mill, temperatures ran high, expensive bearings were in danger. After Oil-Mist, temperatures dropped—so did the use of rolling coolant—$480 worth a month! Plus a saving of 24,000 gallons of preheated water a month—previously added when replacing coolant! Lubricant consumption fell from 15 or 20 *pounds* of grease *a* DAY to 2½ *gallons* of *oil a* WEEK! Lubrication time—a sixth of what it was.

Impressive? Sure, but Oil-Mist effects comparable savings on *any* machine.*

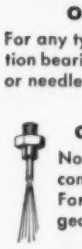
Alemite Oil-Mist is a completely automatic, completely enclosed system which atomizes oil into mist—distributes it through tubing to bearings—where it is applied in a uniform, cooling coating. Suitable for bearings designed for either oil or grease.



A. Water Separator
B. Solenoid Control
C. Oil-Mist Lubricator

DELIVERS OIL TO BEARINGS THREE WAYS

Oil-Mist
For any type of anti-friction bearing—ball, roller or needle.



Oil in Spray Form
Nozzle condenses mist—concentrates application. For open and enclosed gears and chains.

Oil-Mist Condensed
For plain bearings, slides, ways, vees, cams and rollers. Oil-Mist condensed to liquid.

A PRODUCT OF SW STEWART WARNER

Free! the complete story on Alemite Oil-Mist and how it can be applied to ANY machine. Specifications, typical installations, case histories. Get yours now!

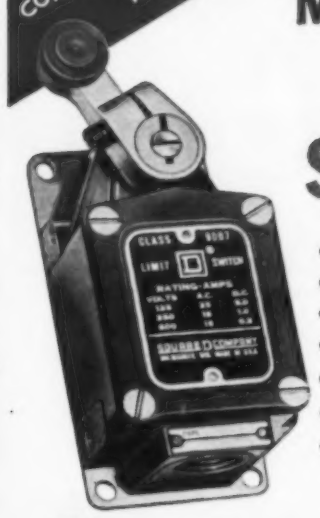
Alemite Division of Stewart-Warner, Dept. NED-54
1850 Diversey Parkway, Chicago 14, Illinois

Name _____
Company _____
Address _____
City _____ Zone ____ State _____

For more details circle NED-622 E4 on enclosed inquiry slip

YOU GET eleven CONTACT ARRANGEMENTS IN one

with this NEW Machine Tool LIMIT SWITCH!



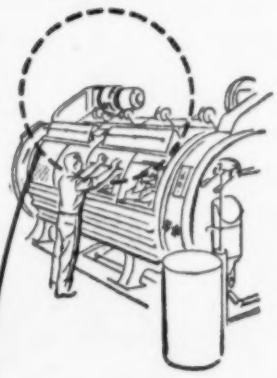
- oil tight
- easy stocking
- easy mounting
- rugged mechanism
- 80 degrees overtravel
- 11 contact arrangements
- simple adjustment

Write for Bulletin SM-239. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

For more details circle NED-623 E4 on enclosed inquiry slip

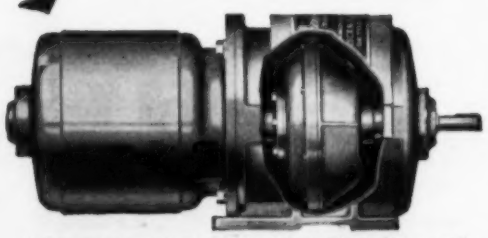


GYROL FLUID DRIVE

saves on CENTRIFUGALS

Centrifugals represent a heavy starting load, which is hard on motors and starting equipment. High starting torque is required for breakaway and acceleration. Fluid Drive permits the motor to start unloaded and to pick up the load at 80-90% speed, developing high torque but under favorable motor conditions where current is low and the rotor is well-ventilated. Fluid Drive allows the use of across-the-line starters and simpler electrical equipment. Thus, Fluid Drive saves on initial installation cost and on maintenance cost.

Advantages of American Blower Type TM Gýrol Fluid Drives



Cutaway view of Type TM Gýrol Fluid Drive unit

- Provides smooth flow of power. Shocks are absorbed in a cushion of oil. There's no metal-to-metal contact between driving and driven machinery.
- Offers by its inherent shearpin action, selective overload protection for both motor and driven machinery. Decreases machine "down" time.
- Available as a complete packaged unit suitable for either direct or belt connection to the driven machine. Minimizes alignment problems.

Free trial units are available to original equipment manufacturers

AMERICAN BLOWER

American Blower Corporation, Detroit 32, Michigan
Division of American Radiator & Standard Sanitary Corporation

Serving home and industry:
AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

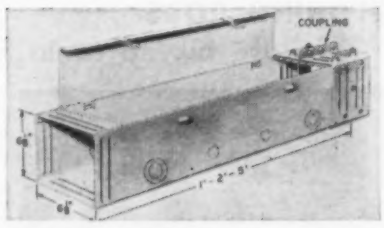
For more details circle NED-624 E4 on enclosed inquiry slip

BRUSH MARKING PEN
available with six ink colors

Construction of the Dri-Rite brush pen prevents clogging or drying up of the ink. Pen can be used for marking on paper, wood, metal, cellophane or cloth. It can be carried in the pocket. Several different nib styles are available, as are black, red, purple, blue, green and yellow inks. Made by **Lockwood Co.**, 362 Boston Post Rd., Milford, Conn.

For more details circle NED-625 E4 on enclosed inquiry slip

WIRING RACEWAY
offered with various fittings



Flexibility of distribution and low cost relocation of electrically powered equipment are advantages derived from use of National 6x6 Wirewa, a continuous wiring raceway and auxiliary gutter. It is made in lengths of 1, 2 and 5 ft and is offered with fittings for T, L and cross-over and junction boxes. Available-from-stock raceway is formed of 0.078-in. steel and finished in baked gray enamel. Galvanized steel units with baked gray enamel are available for use in corrosive locations. Hinged cover, positive latching, easy-to-install couplings and adapter to allow use with 4x4 Wirewa are additional features. Made by **National Electric Products Corp.**, Room 902, Gateway Center, Pittsburgh 22, Pa.

For more details circle NED-626 E4 on enclosed inquiry slip

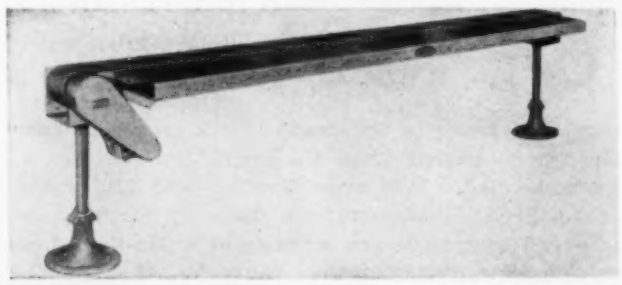
COMPARATOR-MICROPHOTOMETER
has coarse and fine motion control

Placement of panel switches for left-hand use and use of a foot control for drive, frees the right hand for writing and plate marking when using the Jaco comparator-microphotometer. Desk - height console model features sensitivity sufficient to yield full-scale deflection for effective slit size of 1 micro x 0.7-mm or better. Speed is sufficient to measure four lines per minute or better. An 18 x 9 mm area of the plate is projected onto the 11 x 11-in. translucent screen at a magnification of 15X. Normally two 4 x 10-in. plates are accommodated, but special adapters make it possible to view either two 2 x 10-in. plates or 35-mm film. Made by **Jarrell-Ash Co.**, Dept. NED, 26 Farwell St., Newtonville, Mass.

For more details circle NED-627 E4 on enclosed inquiry slip

NARROW BELT CONVEYOR
constructed from standard unit parts

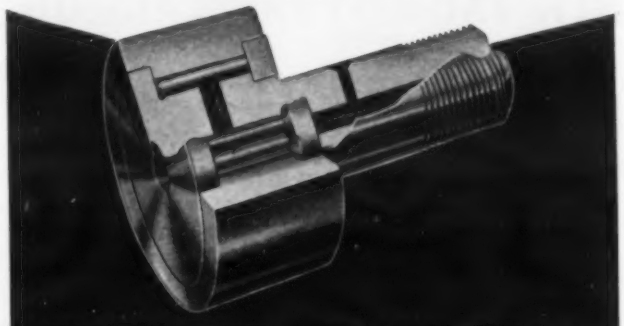
Narrow belt conveyor suitable for handling small lightweight containers is constructed from standard unit parts to increase adaptability. It is available



with 5 or 8-in. frames taking belts either 1, 2 and 3 or 4, 5 and 6-in. wide. It is made in any length of 5-ft increments up to 50 ft. Side leaves and rail guards are available. Three fixed belt speeds of 25, 37½ or 50 fpm are available with ¼-hp motor drive. Made by **Island Equipment Corp.**, Dept. NED, 27-01 Bridge Plaza N., Long Island City 1, N. Y.

For more details circle NED-628 E4 on enclosed inquiry slip

Improve Performance of cam action with MULTIROL® Cam Follower Bearings



Multirol CF Series Bearings are designed especially to insure greater precision performance in any cam actioned bearing application. They are built to provide the ultimate in radial capacity, shock resistance, space economy and longer bearing life.

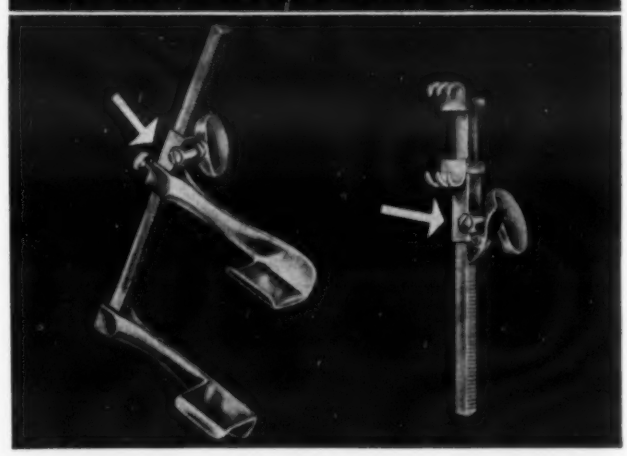
Send for McGill Catalog No. 52

McGILL® precision bearings

McGILL MANUFACTURING CO., INC. 101 N. LAFAYETTE ST. VALPARAISO, INDIANA

For more details circle NED-629 E4 on enclosed inquiry slip

SURGICAL INSTRUMENTS EASIER TO MAKE WITH SQUARE TUBING



The two instruments above are (left) for spreading, and (right) for returning ribs to a normal position after an operation.

The maker, George P. Pilling & Son Co., Philadelphia, was looking for a design of the pinion rod support (arrows) that would meet all specifications and save money. Broaching a square hole from a solid bar was costly.

They found their answer in Superior type 304 stainless steel square tubing. It is corrosive resistant; can be silver-soldered; and made to close I.D. tolerances by Superior.

Superior offers you round or shaped tubing in up to 55 analyses—with experience just as broad and varied. Write for Data. Superior Tube Company, 2018 Germantown Ave., Norristown, Pa.

All analyses .010" to ⅝" O.D.
Certain analyses in Light Walls up to 2½"

Superior THE BIG NAME IN SMALL TUBING

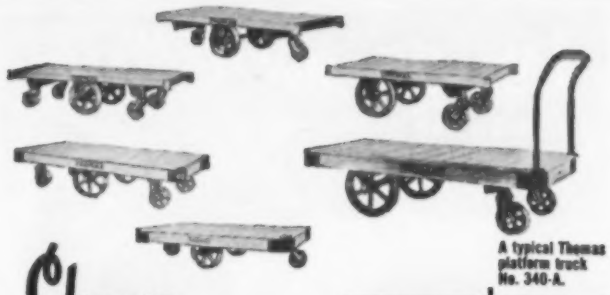
For more details circle NED-630 E4 on enclosed inquiry slip

MERRILL MATERIALS HANDLING DEVICES

3-M-2

MERRILL BROTHERS
56-13 ARNOLD AVENUE MASPETH, N. Y.

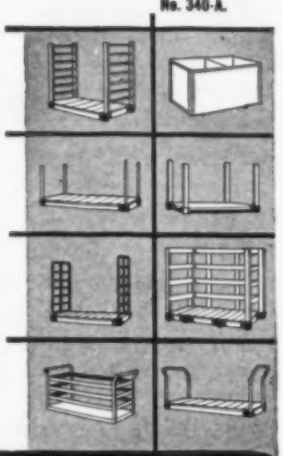
For more details circle NED-631 E4 on enclosed inquiry slip



A typical Thomas platform truck No. 340-A.

Choose FROM SIX DIFFERENT TRUCK CHASSIS and 1000 superstructures

The Thomas "Job-Suited" plan enables you to choose quickly and accurately the most efficient truck for your particular freight or materials handling problem. FIRST—you choose any chassis or running gear that will *carry* your load. SECOND—you choose one of the 1000 superstructures to *hold* your load. PRESTO—you have a Thomas "Job-Suited" truck specially tailored to your needs! ANY CAPACITY, ANY SUPERSTRUCTURE, FOR ANY USE!



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THOMAS TRUCK & CASTER CO.
469 Mississippi River, Keokuk, Iowa

For more details circle NED-632 E4 on enclosed inquiry slip

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SAVE TIME—SAVE MONEY

VERSA-LINER SPEED MASTER MODEL "S" AMMONIA TYPE WHITEPRINTER

NEW, FASTER—MORE EFFICIENT!

● *Prints up to 14 ft. per min. Develops at 8 ft. per min.* Produces black line and colored line whiteprints in volume at low cost! Handles cut sheets or roll stock up to 42" wide in any length. *Equipped with 2000 watt* high pressure Vicor jacketed lamp for greater printing speed. *Newly devised blower system* for coolest contact—protects originals. Feed, delivery and all controls in front, within easy reach. Easy to install and operate. Trouble-free. Simple to clean. Minimum maintenance. 220 v. single-phase 60 cycle AC. Priced at $1395.00. *Get full facts now.*

Also other Versa-Liner and Spee-Dee Whiteprinting Outfits for Moist Diazo or Ammonia Dry Process from $55.00

PECK & HARVEY 5638 N. WESTERN AVE. CHICAGO 45, ILLINOIS
Founded in 1937—Over 10,000 Machines in Use
MFRS. OF WHITEPRINT, BLUEPRINT AND PHOTOCOPY EQUIPMENT

For more details circle NED-633 E4 on enclosed inquiry slip

Protects AIR TOOLS AND EQUIPMENT

against rust, scale and condensation in the air line ...provides constant lubrication

The Keller Lubricator-Filter operates automatically when air tools or equipment are in operation. Filter removes moisture as well as solids—easily cleaned by opening drain cock at bottom. Oil feeds from the lubricator through an upright wick—no flooding or waste when tools are not in use.

Transparent bowls show when filter needs draining, or when light spindle oil should be added to lubricator. Write for descriptive Bulletin #65-5.

Send for illustrated descriptive bulletin and detailed information

Keller Tool Company
1331 Fulton St., Grand Haven, Mich.

For more details circle NED-634 E4 on enclosed inquiry slip

ETCHER & DEMAGNETIZER also used for resistance soldering

A four-in-one electric unit for use in tool rooms, job or production shops, this Easco etcher and demagnetizer hand-etches or demagnetizes tools, dies, fixture or production parts. It can also be used for resistance soldering and for magnetizing small and medium-size parts. Simple to operate, unit has easily replaceable soldering and etching tips. Power unit weighs 25 lb and measures 10 x 8 x 8 in. Etching and soldering tools and tips are standard equipment. Made by **Electro Arc Sales Co.**, 5272 Geddes Rd., Ann Arbor, Mich.

For more details circle NED-635 E4 on enclosed inquiry slip

MANUAL CONTROL VALVES for hydraulic or pneumatic service

Designed for either hydraulic or pneumatic service, 900 series manually controlled shut-off and throttling valves are rated at from 0 to 3000 psi. Leakproof shut-off is provided by an O-ring which is withdrawn completely from the fluid stream as soon as valve begins to open to prevent damage or wash-out. Throttling is accomplished by a conical metal plug which varies the orifice area. All functions are controlled by a single motion of the hand knob. Valves operate with low pressure drop even when pressure and flow rate are high, since design gives minimum change in direction of flow. Made by **James-Pond-Clark**, 2183 E. Foothill Blvd., Pasadena 8, Calif.

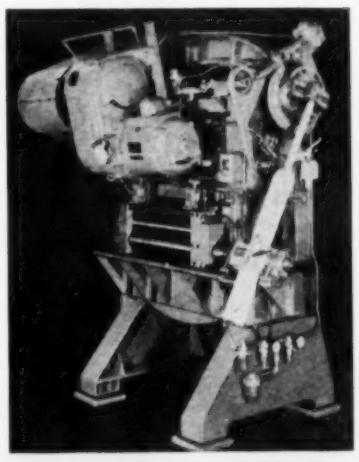
For more details circle NED-636 E4 on enclosed inquiry slip

CHAIN HOIST 1-ton unit is corrosion resistant

Nonmagnetic, spark and corrosion resistant hoist is of 1-ton capacity and can be used in explosive atmospheres and where corrosion might result from direct contact with liquids or fumes. It is of the spur gear ball-bearing type, and with the exception of a few nonmetallic parts and Monel ball bearings, is fabricated entirely from special copper-base alloys. Chain is proof-tested at 4000 lb and hoists themselves are tested at over 50 per cent of their rated capacity. Made by **Ampco Metal, Inc.**, Dept. 5-54, 1745 S. 38th St., Milwaukee 46, Wis.

For more details circle NED-637 E4 on enclosed inquiry slip

AUTOMATIC PRESS handles stock up to 23-in. wide



Automatic press is rated at 40 tons, handles stock up to 23-in. wide and is provided with back-to-front feed. Air cylinders clamp stock. Length of feed is infinitely variable from 0 to 13 in. Cylindrical-type ram assures punch and die alignment and four-bearing crankshaft design gives strength and rigidity. Pneumatic clutch and variable-speed motor afford operating speed range from 72 to 360 strokes per minute. Made by **Di Machine Corp.**, 2701 W. Irving Park Rd., Chicago 18, Ill.

For more details circle NED-638 E4 on enclosed inquiry slip

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Specify **CLARK** QUALITY INDUSTRIAL FASTENERS SINCE 1854

BOLTS • NUTS RIVETS and SCREWS...

Quality • Dependability
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Used by Leaders in Industry for
Water Heaters
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They're Simple Easy to Install ACCURATE Give many years of Reliable Service

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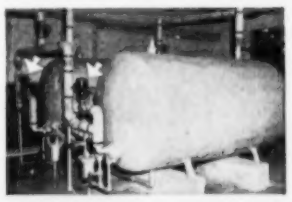
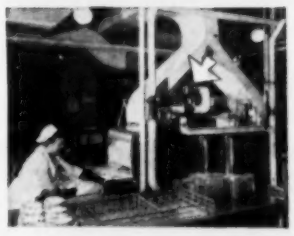
Available with or without DIAL Indicating THERMOMETER





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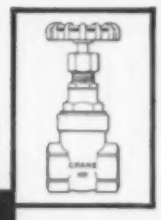
OVER 60 YEARS OF TEMPERATURE AND HUMIDITY CONTROL

For more details circle NED-640 E4 on enclosed inquiry slip

NEW
BRASS GATE VALVES



No. 410
100-Pound

No. 438
125-Pound

Complete facts, including sizes, prices and dimensions in new four-page Folder AD1944 just off the press. Send for yours today, or ask your Crane Representative.

BY CRANE

No. 437, 150-Pound

Meet your new brass valve favorites—the modern, streamlined version of the familiar Crane 410, 437, and 438 valves that have served so well so long. Note in particular the cylindrical design of the upper body . . . the same basic shape as in high-pressure steel valves. That's the kind of refinement that makes this famous valve series *more than ever* your best buy. Sizes 1/4 to 3 in. depending on pressure class.

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

For more details circle NED-641 E4 on enclosed inquiry slip

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CHAIRS AND STOOLS
SAVE TIME AND MONEY

3 WAYS

1. Avoids confusion and lost time at start of each period, enables each worker to adjust seat height to fit own requirements.
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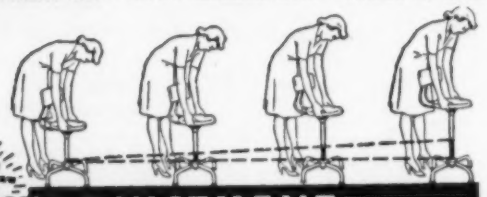
3. Sturdy construction and special features eliminates maintenance costs—save as much as $3.00 per unit per year.

Sizes and models to meet any requirement. No tools needed—just lift seat to desired height—holds securely where upward lift stops. 2-way backrest adjustment gives support to stop fatigue. Reduces absenteeism.

FREE TRIAL
Try an Ajustrite for 30 days without obligation. The quick, easy, adjustment will surprise you

AJUSTO EQUIPMENT CO. • 2144 Madison Ave. • Toledo 2, Ohio

Adjusts
15" to 20"
18" to 26"
24" to 35"



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PRECISION MERCURIAL MANOMETER

Accuracy . . .
.01 inches Hg.

Float Indicator . . .
no meniscus errors

Temperature Compensation . . .
no corrections

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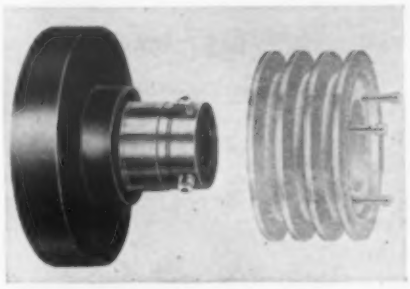
Publication No. TP-29-A

A-95

WALLACE & TIERNAN
ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS
Belleville 9, New Jersey
Represented in Principal Cities
In Canada, Wallace & Tiernan Products, Ltd.—Toronto

For more details circle NED-643 E4 on enclosed inquiry slip

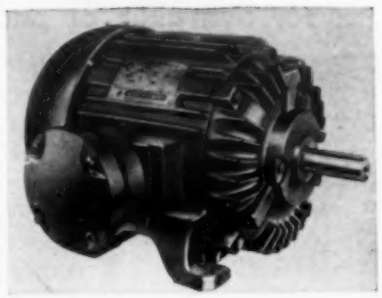
AUTOMATIC CLUTCH
for gasoline engines, electric motors



Installed without altering present shaft extensions, the 600 series automatic clutch provides load-free starting and idling for gasoline engines from 3 to 10 hp and electric motors from 2 to 5 hp, 1750 rpm. Clutch picks up the load smoothly when the power source is accelerated. Wire selection of detachable sheaves or sprockets is available for use on the unit. Made by **Salsbury Corp., 1163 E. Florence Ave., Los Angeles 1, Calif.**

For more details circle NED-644 E4 on enclosed inquiry slip

SQUIRREL-CAGE MOTORS
in new NEMA frame sizes



Line of type G alternating current squirrel-cage induction motors now available in frame sizes 182 and 184 and later to be produced up to size 326 follows the newly established NEMA standards. Motors are made in open and totally-enclosed (fan-cooled and explosionproof) models. Efficiency and power factors remain relatively the same as present AP models. They have cast iron frames and end shields, pressure cast aluminum rotors, grease-lubricated medium series double-shielded ball bearings and random or mush wound type stator windings with Formvar-coated wire in semiclosed slots. All continuous-rated totally-enclosed motors of new design will be fan-cooled. Made by **Allis-Chalmers Mfg. Co., 918 S. 70th St., Milwaukee 1, Wis.**

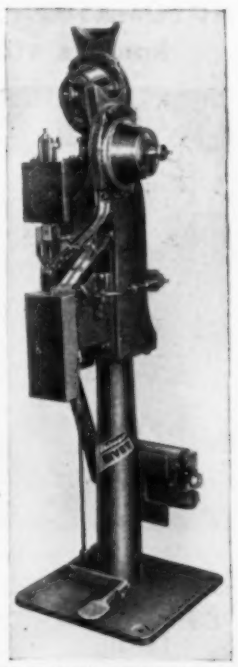
For more details circle NED-645 E4 on enclosed inquiry slip

FILTER CARTRIDGES
five types added to line

Five new replacement lubricant and fuel oil cartridges are added to Fram line. Included are C-235, a lubricating oil cartridge for International Harvester Cub; C-1177PB, secondary fuel cartridge for Allis Chalmers HD15 and HD19; and C-1179PB, secondary fuel cartridge for Allis Chalmers HD20 engines. Also added are C-1176, primary fuel and lubricating oil cartridges for Allis Chalmers HD15 and HD19; and the C-1178, primary fuel and lubricating oil cartridges for Allis Chalmers HD20. Made by **Fram Corp.**, Dept. JJW, Providence 16, R. I.

For more details circle NED-646 E4 on enclosed inquiry slip

AUTOMATIC RIVETER
sets male and female rivets



Male and female rivets are rapidly fed and driven by the model 106 automatic feed riveter. In action, the tubular female rivet is fed to a rigid position in the lower or anvil portion of the machine and acts as a pilot for assembling the elements to be riveted. Solid rivet drives from the top to form a fastening with heads alike on both faces of the assembly. Male and female rivets which are to be driven are fed automatically into position for use. Made by **Chicago Rivet & Machine Co., 9606 W. Jackson Blvd., Bellwood, Ill.**

For more details circle NED-647 E4 on enclosed inquiry slip

LAWLOR MOP WRINGERS

FOR EASIER MOPPING GET A LAWLOR NO. 2

Copied but never Duplicated!

EASIEST
turning wringer made: there are bearings at ends of rollers.

EASY
to bring rolls together: foot lever is perfectly balanced.

EASY
to move wringer: self-adjusting front casters raise metal feet from floor when you're ready to go.

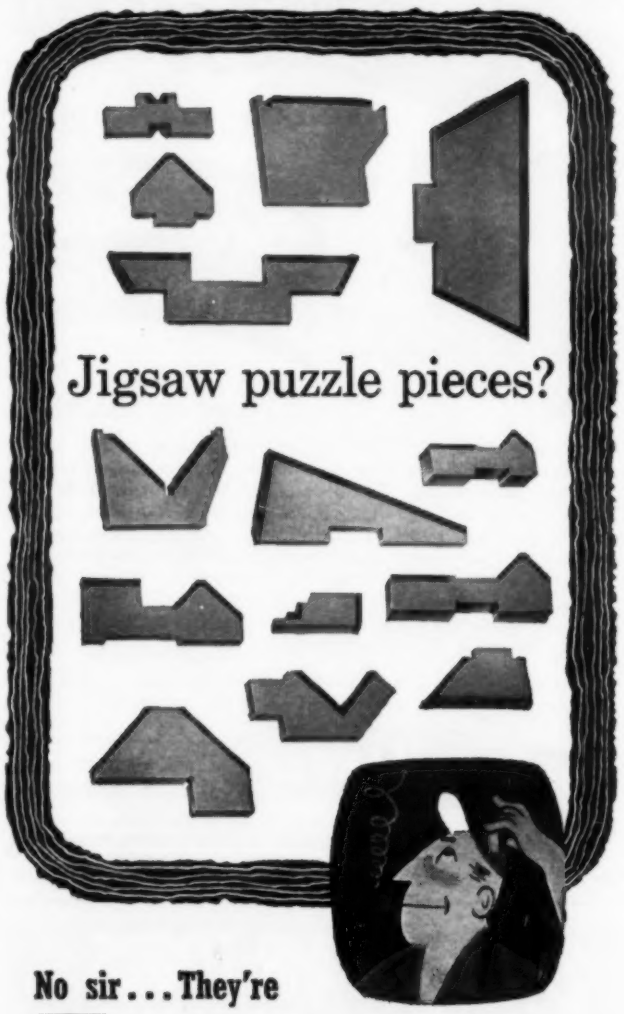
The **LAWLOR No. 2** accommodates any standard round, galvanized pail up to 16-quart capacity. Net weight of wringer—23 pounds.

LAWLOR No. 6 TWIN is like the No. 2 Wringer in general construction, but accommodates two pails.

Write for Catalog of Mop Wringers, Tanks, Cleaning Equipment for every kind and size floor.

S. C. LAWLOR CO.
Quality Floor Equipment for 50 Years
131 N. ABERDEEN ST. CHICAGO 7, ILL.

For more details circle NED-648 E4 on enclosed inquiry slip



No sir . . . They're OK hardened bedway cross sections!

Made by The Ohio Knife Co., they show the diversified shapes and sizes supplied. OK's special process of manufacture permits building to your specifications in a wide range of design.

Specially heat-treated tool steel makes OK ways practically wear-proof, helps maintain constant accuracy throughout the life of the machine. This extreme hardness, 65-66 Rockwell "C", is uniform to 3/16-inch depth or more. Long-wearing tool steel is welded to a soft steel backing under 2500 tons pressure. Precision equipment finishes the bedway by grinding to tolerances up to ± .0002 inches.

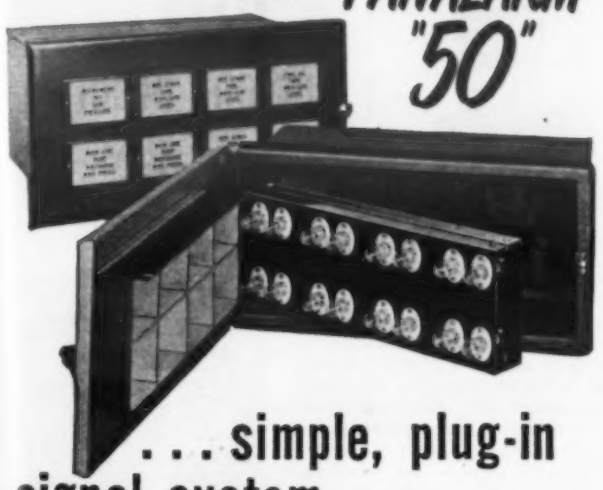
Manufacturers of . . .
OK WELDED HIGH SPEED SHEAR BLADES • OK SLITTER KNIVES
TUBE CUT-OFFS • OK SOLID STEEL SHEAR BLADES
HARDENED WAYS AND SLIDES • ROTARY SHEARS

Write today to Dept. H for comprehensive bulletin, or send us your bedway specifications.

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

For more details circle NED-649 E4 on enclosed inquiry slip

NEW PANALARM "50"



. . . simple, plug-in signal system . . .

ALL your signal requirements are fulfilled by a single PANALARM "50". This combined audio-visual system is self-contained, pre-wired, easily installed. New features permit circuit changes without re-wiring. New instrument-type construction gives maximum dependability and service.

All moving parts and contacts are within hermetically sealed, corrosion-proof, plug-in units. Additional signals are merely plugged in.

PANALARM "50" . . . available with backlighted nameplates or bullseye lamps . . . for 3 to 54 signals.

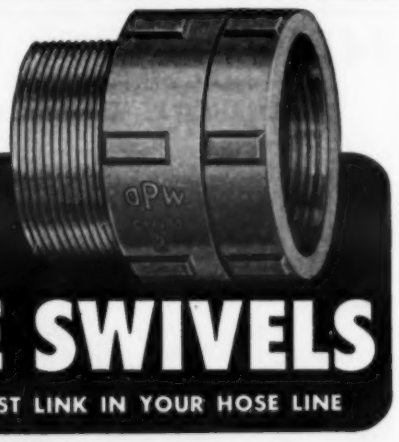
Write for Informative Catalog 100.

PANALARM

PANALARM PRODUCTS, INC.
6312 N. Broadway, Chicago 40, Illinois

For more details circle NED-650 E4 on enclosed inquiry slip

Won't Pull Apart!



OPW HOSE SWIVELS

THE STRONGEST LINK IN YOUR HOSE LINE

- NO PRODUCT LOSS
- NO DESTRUCTION OF PROPERTY
- NO HAZARD

Add life to your hose . . . make it easier to handle . . . eliminate twisting, kinking and tension resulting from rotary motion. Use OPW's leakproof Swivels with fueling nozzles, liquid dispensing nozzles, on all hose lines.

No. 2 Swivel for heavy duty pressure or vacuum service.

No. 17-ST Swivel for stationary installations such as service station delivery hose or similar applications.

WRITE FOR BULLETIN NP-3

OPW CORPORATION
2729 COLERAIN AVENUE • CINCINNATI 25, OHIO

For more details circle NED-651 E4 on enclosed inquiry slip

SKINNER explosion-proof

STAINLESS STEEL SOLENOID VALVES

SAFETY X5 SERIES

Underwriters Approved for Class 1, Group D, Hazardous Locations — flammable gases or vapors — (Refineries, Pipe Lines, etc.)

INEXPENSIVE

Simple, extremely flexible design makes Skinner X5 Series valves *the most versatile explosion-proof valves on the market!*

X5 Series Valves are competently engineered to give trouble-free operation through millions of cycles. They are direct acting, leakproof and spring loaded for positive operation in any position. Available in a broad selection of types, voltages, pressures, flow control adjustments, port sizes and port locations.

SPECIFICATIONS: Type: Two- and Three-Way Normally Open, Normally Closed, and Directional Control; Pressure Range: 0-1000 p.s.i. Orifice Diameters: 3/64" to 1/4". Pipe Size: 1/8" or 1/4" NPT; Voltage: All AC and DC; Duty Cycle: Continuous or Intermittent. Write for BULLETIN 526A

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
112 Edgewood Ave., New Britain, Conn.

For more details circle NED-652 E4 on enclosed inquiry slip

PORTABLE SPRAYER for dispensing insecticides

Electrically-operated portable sprayer is used to dispense insecticides for controlling flying and crawling insects. Called the Robot Mistorizer, it breaks down either oil or water-based insecticides into a dry mist and ejects them under pressure. Automatic timer can be adjusted to turn off the spray after a desired time, and a regulator adjusts amount of liquid dispensed from 1 pint to 1 gph. Dual nozzles provide wide area coverage. Sprayer can be used on alternating or direct current at 110 to 120 v. Made by **West Disinfecting Co.**, Dept. DE, 42-16 West St., Long Island City 1, N. Y.

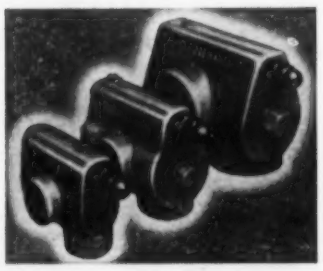
For more details circle NED-653 E4 on enclosed inquiry slip

POWDER-ACTUATED TOOL drives heavy shank fasteners

Heavy shank fasteners can be driven into structural steel plates up to 1 in. thick and into the hardest concrete by the Super-Power Jobmaster powder-actuated tool. When driven into such plates, pins and studs have a holding power up to 10,000 lb. Tool weighs less than 8 lb, is 15 in. long and is designed for one or two-hand operation. Pins and studs with 3/8-in. thread or head diameter can be set at an average rate of 1 or more per minute. Any of 19 Ramset-designed fasteners can be used, driven by a choice of four powder loads. Made by **Olin Industries, Inc.**, Ramset Fasteners Div., 12119 Berea Rd., Cleveland 11, O.

For more details circle NED-654 E4 on enclosed inquiry slip

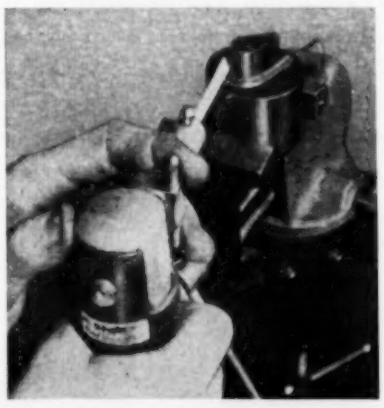
HYDRAULIC RELIEF VALVES for use in 2000 psi circuits



Line of relief valves for pressure control in 2000-psi hydraulic circuits are light in weight and compact and have threaded bodies for in-the-line or tee'd connections. They are available in 1/2, 3/4, 1 1/4 and 1 1/2-in. pipe sizes and can be vented or operated by remote control. Nominal rated capacities are 10, 20, 60 and 80 gpm, respectively and pressure drops at 20 gpm are 500, 100, 15 and 15 psi. Three smaller sizes have 100 to 2000 psi pressure regulation, while the largest size has 150 to 2000-psi settings. A single screw adjusts the pressure settings. Made by **Denison Engineering Co.**, 1152 Dublin Rd., Columbus 16, O.

For more details circle NED-655 E4 on enclosed inquiry slip

DIE PROFILING MACHINE improved type rocks as it hones

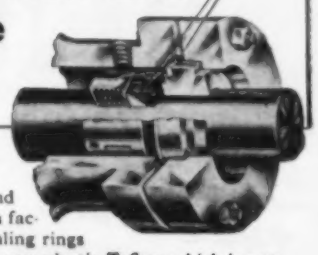


A clamp, positioned and tightened by thumb-screw, allows hone or file of improved Di-Profiler to be rocked or rotated to conform with contour of die or part being worked. Regulated reciprocating stroke from 0 to 1/4-in. can be operated at any speed from 0 to 15,000 strokes/minute by foot control. Spring compensator allows for human error when longer stroke than needed is being used, or when dead end holes are being filed. Tool can be used as lathe or drill press accessory when extension shaft is assembled. Unit is furnished in wood cabinet with enough accessories to cover needs of tool and die maker. Made by **Nord International Corp.**, 449-103 Central Ave., Orange, N. J.

For more details circle NED-656 E4 on enclosed inquiry slip

new JOHN CRANE mechanical seal with TEFLON*

Solves Corrosion and Temperature Problems...



With the new Type 9 John Crane Mechanical Seal, proper sealing of chemicals and corrosive liquids is no longer a factor. Its flexible wedge and sealing rings are molded of the remarkable new plastic Teflon, which is not affected by any industrial chemical.

The successful development of two years research and field testing, this revolutionary seal handles corrosive liquids never before controlled effectively by conventional, flexible type mechanical seals. Thus, John Crane designing experience is effectively combined with the unique properties of Teflon: chemical inertness, extremely low friction and high heat resistance. Type 9 Seal can be employed at temperatures up to 500°F.

SEND FOR BOOKLET: *containing full details on the Type 9 Seal.*

Crane Packing Co., 1811 Cuyler Ave., Chicago 13, Ill.

In Canada: *Crane Packing Co., Ltd., 617 Parkdale Ave., N., Hamilton, Ont.*

**DuPont's trademark*

JOHN CRANE CRANE PACKING COMPANY

For more details circle NED-657 E4 on enclosed inquiry slip

Versatile pin does 4 jobs in a great new product!

SPIROL PIN — a pivot, a stop, a fastener and a reinforcement in the new DICTAPHONE Time-Master '5'

Engineers who designed Dictaphone Corporation's new dictating machine — "Time-Master 5" — found the new SPIROL pin so versatile that it could be used as a *pivot*, as a *stop*, as a *fastener*, as a *reinforcement* . . . a pin whose radial spring action would hold fast, yet could be easily removed without damage to either fastening or hole.

1. **SPIROL pins pivot** plastic control button and swinging microphone hook. SPIROL's all-around tension fits snugly in a *molded* hole in the plastic assembly, eliminating all drilling and reaming operations.
2. **SPIROL pin fastens** guide rod to frame. When compressed by insertion, pin exerts even *radial pressure* with no weak "hinge" lines — provides for easy removal and reinsertion in the field without damage to pin or hole.
3. **SPIROL pin reinforces** as well as fastens frame. Extends deep into frame, adding strength. Replaces more expensive dowel, saves a reaming operation.
4. **SPIROL 'stop'** controls movement of cam, absorbs shock better than solid pins. Available in standard sizes from 1/32" to 1/2" dia. and 1/8" to 4" length, or to specification.

Write for illustrated folder and sample SPIROL pins.

SPIROL PIN

C. E. M. COMPANY • 73 SCHOOL ST. • DANIELSON, CONN.

For more details circle NED-658 E4 on enclosed inquiry slip

ANOTHER **IBH*** FIRST

*"IN-BETWEEN-HANDLING"
Short distance hydraulic manipulation of materials too heavy for manual handling yet not requiring high priced power-driven equipment.

BIG JOE®

TRIPLES THE ACTION!

EASIER, FASTER UNLOADING

The first successful TRIPLE ACTION hydraulic pump is now standard on *all* "BIG JOE" foot operated lift trucks. The platform or forks can now be raised with ease — empty or with loads up to 200 lbs. — at a rate of 3½" per stroke. *The operator is saved 21 strokes per 56" lift.*

There are more than 40 manual and battery operated "BIG JOE" units designed for IBH*.

Write for our booklet on "IBH"

"HYDRAULIC HANDLING FOR EVERY DEPARTMENT"

BIG JOE Manufacturing Company
908 Jackson Blvd., Chicago 7, Ill.

©1954 Big Joe Mfg. Co.

▲ For more details circle NED-659 E4 on enclosed inquiry slip ▲

B.F.Goodrich

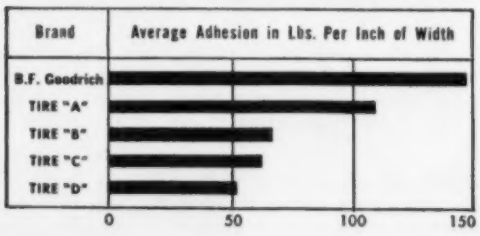
FREE TW TIRE AND WHEEL ANALYSIS can lower over-all tire costs as much as 50%

Savings of as much as 50% on industrial tire costs have been reported by users across the country through the use of the B. F. Goodrich Tire and Wheel Analysis Plan! Tire maintenance costs have been reduced 20% and more! This free analysis plan can save *you* money, too. Merely contact your local BFG retailer or mail the coupon below. Without cost or obligation, a trained B. F. Goodrich man will study your materials handling operations. He will tell you what type and size tires, what tread design and compound will serve you best.

The advice and counsel you get will be unbiased, for B. F. Goodrich makes a *complete* line of industrial tires. A special TW Analysis is available for manufacturers of industrial hauling equipment.

AVOID TIRE FAILURES LIKE THIS. Poor adhesion of rubber to steel caused this tire to fail prematurely. The chart below, based on extensive comparison tests of leading makes of tires, proves the superior adhesion qualities built into BFG solid industrial tires.

Tests Prove B. F. Goodrich Adhesion Best



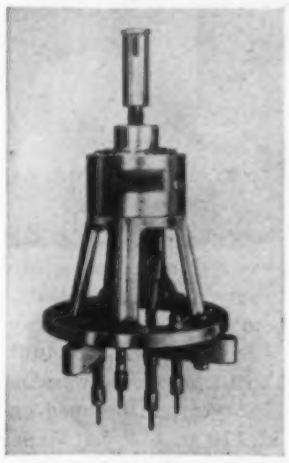
The B. F. Goodrich Company
Tire & Equipment Division
Department TW-388, Akron 18, Ohio
Please send me:
☐ Additional information on your Tire and Wheel Analysis Plan
☐ Free copy of "Industrial Tire Guidebook"
☐ Free copy of "How to Get Extra Service Out of Solid Industrial Tires"
Name_____
Company_____
Street_____
City_____ Zone____ State____

Specify B. F. Goodrich tires when ordering new equipment

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

▲ For more details circle NED-660 E4 on enclosed inquiry slip ▲

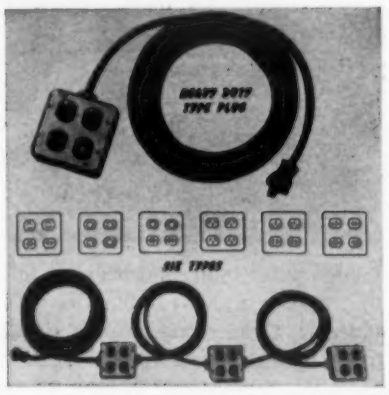
TAPPING HEAD
offered in two sizes



Universal joint tapping head for attachment to spindles of various machines has one-piece hardened and ground gears and spindles and fully-grooved ball thrust bearings at all thrust points. Heads are made of sand cast aluminum. Two sizes are offered: No. 0, with 0 to ¼-in. tap capacity and four and six spindles; and No. 1, with 7/32 to ½-in. tap capacity and four, six and eight spindles. Made by **Errington Mechanical Laboratory, Inc.,** 26 Norwood St., Staten Island 4, N. Y.

▲ For more details circle NED-661 E4 on enclosed inquiry slip ▲

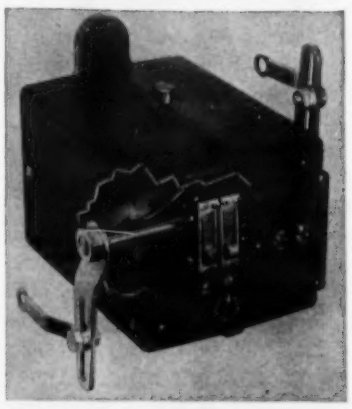
JUNCTION BOXES
have varying outlet arrangements



Multiple electrical outlet junction boxes employ heavy duty plugs and have four outlets with varying combinations of T-slot, straight and twist lock designs. Seven different arrangements are available. Boxes are of heavy duty construction and can be provided with 15, 25, 50 or 100-ft lengths of No. 14 electrical cord. A strain-relief anchor keeps the wire from pulling out. Units can be used wherever multiple power equipment or lights are operated. Made by **National Wire & Cable Corp.,** 136 San Fernando Rd., Los Angeles 31, Calif.

▲ For more details circle NED-662 E4 on enclosed inquiry slip ▲

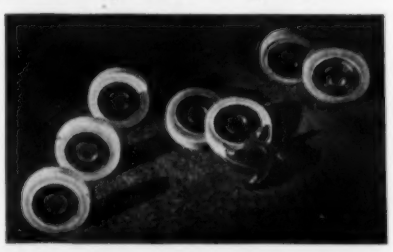
DAMPER MOTOR
two-position, rotating arm type



Improvements made in the No. 315 damper motor include a 50 per cent reduction in number of moving parts. Use is for operating ventilating louvers, opening and closing valves and in conjunction with thermostats and other control equipment. The thermostat or other operating device is relieved of all electrical load during the time the motor is functioning. Damper motor is two-position, rotating arm type with oil-retaining porous bronze bearings. Operation is on 20, 115, 220 or 440 v, with three-wire control system. Maximum load which can be moved at extreme arm radius is 20 lb. Made by **Gleason-Avery, Inc.,** 49 Aurelius Ave., Auburn, N. Y.

▲ For more details circle NED-663 E4 on enclosed inquiry slip ▲

PLASTIC TRIMMERS
have nonabrasive phenolic guides



Linen-base phenolic laminate guides adopted as standard equipment for line of plastic trimmers made by Oakland Carbide Engineering are so completely nonabrasive that they will not leave a discernible mark on black decorative plastics. Material is also extremely wear resistant. Straight-face and both 10 and 25-degree tapered-face trimmers, all carbide tipped, are now fitted with new plastic guides. All models fit standard 5/16-in. spindle or arbor. Guides contain sealed ball bearing to prevent freezing. Distributed by **Price & Rutzebeck,** 22150 Meekland Ave., Hayward 79, Calif.

▲ For more details circle NED-664 E4 on enclosed inquiry slip ▲

low current drain long life

General Controls AV-1 Series electro-magnetic shut-off valves for pressurized liquid and gas control in mobile systems come both in disc and plunger types, all light-weight, low current, continuous duty, Hi-g resistance controls. The disc type features a disc-armature developed by General Controls for positive valve operation under extreme vibration conditions and acceleration forces to 300 Gs. The plunger type features a plunger-armature design with soft seat material suitable for liquid or gas control in temperatures ranging from −65° to 160°F.

GENERAL CONTROLS
Plants in: Glendale, Calif., Burbank, Calif., Skokie, Ill.
Factory Branches in 37 Principal Cities
SEE YOUR CLASSIFIED TELEPHONE DIRECTORY

Manufacturers of Automatic Pressure, Temperature, Level and Flow Controls for Heating, Home Appliances, Refrigeration, Industrial and Aircraft Applications.

▲ For more details circle NED-665 E4 on enclosed inquiry slip ▲

NEW SAFETY FEATURE
Pop-out ends accidents

A special feature of the new Rapistan Live Roller Conveyor is the pop-out action of the carrier rollers. This prevents injury to fingers and hands, accidentally thrust into unit. Designed to meet the need for a rugged power unit to be used with rough or heavy items, the Rapistan Live Roller is excellent for sweep-on-and-off operations. A motor driven belt actuates rollers available in widths from 12" to 36". For complete information on this new, heavy-duty unit with exclusive safety features, write direct to:

The RAPIDS-STANDARD CO., Inc.
223 Rapistan Building, Grand Rapids 2, Michigan

Rapistan BETTER CONVEYING EQUIPMENT

▲ For more details circle NED-666 E4 on enclosed inquiry slip ▲

ACROMARK MEANS "ACCURATE MARKING"

FILL DESIGN AND LETTERING WITH ENAMEL MECHANICALLY

ASK FOR— THE **ACROPRINTER** Reg. U. S. Pat. Off.
MADE IN SEVERAL SIZES
MANUALLY OR POWER OPERATED
CONSTANTLY IMPROVED

The ACROMARK Company

WRITE TO—7-11 MORRELL ST., ELIZABETH 4, N. J.
"THE ORIGINAL MARKING SPECIALISTS"

▲ For more details circle NED-667 E4 on enclosed inquiry slip ▲

Need VOLUME on SMALL PARTS like these?

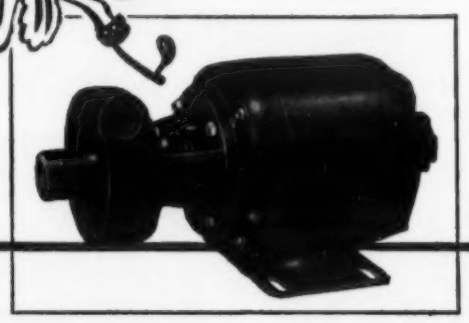
Investigate MULTI-SWAGE

●If it's VOLUME you need on small tubular metal parts similar to these, be sure to look into Bead Chain's MULTI-SWAGE Process. Many prominent users of solid pins for electronic and mechanical purposes have cut costs by switching to Multi-Swaged *tubular* pins . . . without sacrificing strength or accuracy. Multi-Swage Parts serve in a wide variety of electronic and mechanical products. Send part (up to ¼" dia. and to 1½" length) and your specs for a quotation. Or write for DATA BULLETIN.

The BEAD CHAIN Mfg. Co.
TRADE MARK
16 Mountain Grove St., Bridgeport 5, Conn.
Manufacturers of BEAD CHAIN — the kinkless chain of a thousand uses, for fishing tackle, novelty, plumbing, electrical, jewelry and industrial products.

▲ For more details circle NED-668 E4 on enclosed inquiry slip ▲

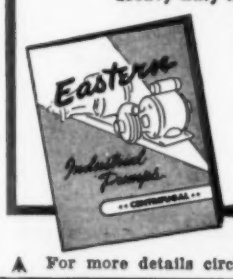
LOW COST OPERATION



CENTRIFUGAL PUMPS

When centrifugal pumps are proportioned in size to their duties, costs are kept to a minimum. Eastern Industrial pumps do an efficient job. Weight, space, power, and costs are reduced. Heavy-duty application with trouble-free performance is yours with minimum operating costs.

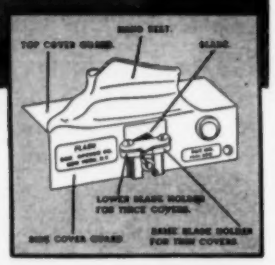
Write for Eastern Centrifugal Pump Catalog 100-B



Eastern INDUSTRIES, INC.
296 Elm St., New Haven, Conn.

▲ For more details circle NED-669 E4 on enclosed inquiry slip ▲

Amazing FLASH BOX OPENER
Opens Any Carton Quicker . . . Cleaner



Exclusive patented blade holder adjustable to varying thicknesses of carton covers.

THE ONLY CARTON OPENER THAT GIVES YOU ALL THESE ADVANTAGES:

Penetrates exactly under the outer cover thickness • Protects contents of carton • Cuts clearly to permit re-use • Prevents accidents • Saves time • Eliminates fatigue. *Already accepted by leading industries.*

Retail Price $1.75

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

▲ For more details circle NED-670 E4 on enclosed inquiry slip ▲

DRILL CABINET
permits orderly arrangement

Compact drill cabinet permits orderly arrangement of various sized drills, so that stock is always on hand for count and dispersal. It is fitted with glass cover and is finished in gray. Integral drill gage plate classifies drills where shank markings have been obliterated by chuck jaws. Case will take both long and short drills, and has back section for storage of surplus. Made by **Hayden Twist Drill Co.**, Dept. B, 8626 Lyndon Ave., Detroit 38, Mich.

▲ For more details circle NED-671 E4 on enclosed inquiry slip ▲

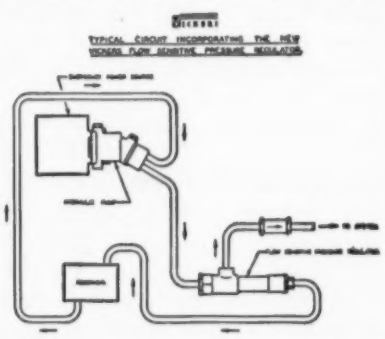
CUTTING TOOLS
with four types of cutting heads

Cutting heads available with Rapidor cutting tools are either high speed steel or carbide tipped in roughing, semifinishing, finishing and forming types. All are interchangeable and replaceable in the heat treated alloy steel holder. Cutting head with serrated edge is gripped in a clamp at the end of the rectangular shank holder and locked. Cutting face contour has built-in cutting and clearance angles. Made by **Bokum Tool Co.**, 14775 Wildemere Ave., Detroit 38, Mich.

▲ For more details circle NED-672 E4 on enclosed inquiry slip ▲

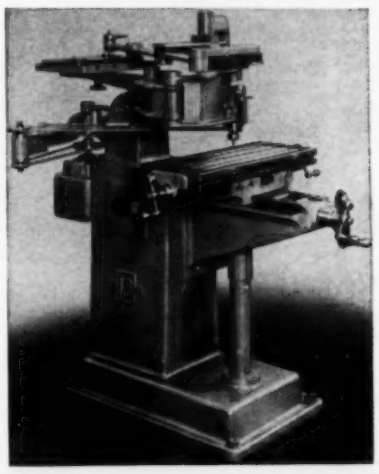
HYDRAULIC PRESSURE REGULATOR
proportions setting to pump output

Flow-sensitive pressure regulator for emergency or other hydraulic systems automatically reduces the relief valve setting in proportion to the torque available from the pump. It therefore instantly makes available a flow at whatever pressure the power source is capable of producing. Although a 3000 psi system may deteriorate to 500 psi or less, total power is not completely cut off because a conventional relief valve has stalled the pumping source. Valve is in open position when not in use, and starting torque is therefore low, increasing as the delivery increases. Air trapped in the system is purged as the valve begins passing fluid. Made by **Vickers Inc.**, 1456 Oakman Blvd., Detroit 32, Mich.



▲ For more details circle NED-673 E4 on enclosed inquiry slip ▲

PANTOGRAPH ENGRAVER
reductions from 1:1 to 1:40



Precision model 2A Panto-Miller is designed for production engraving, profiling, die-cutting, and milling in metals and plastics and has a range of pantograph reductions from 1:1 to 1:40. Spindle speed is dial controlled and is infinitely variable from 1200 to 1500 rpm on standard models. Standard copy table measures 10½ x 16 in., and work table 10 x 26 in. Both are T-slotted for mounting work. Unit is equipped with precision ball bearings and can be used as a conventional milling machine. Made by **Johnson & Bassett, Inc.**, Production Tool Div., 114 Foster St., Worcester, Mass.

▲ For more details circle NED-674 E4 on enclosed inquiry slip ▲

FULLY AUTOMATIC LOADER!

LOAD-O-MATIC*

The LOAD-O-MATIC* is a new, revolutionary loading platform which automatically carries loads from loading dock to truck floor, whether truck is above or below dock. Can also be installed at ground level. Motion controlled by switch bar in platform and by self-leveling ramp. Completely automatic! Human element eliminated! It's the loader with the mechanical brain. Models 6000 to 20,000 lbs. Write for descriptive literature. *Pat. App. for

FIELD ENGINEERING CO. 66 FOOTE AVENUE JAMESTOWN, N. Y.

▲ For more details circle NED-675 E4 on enclosed inquiry slip ▲

BEND, MELT, SOLDER, BRAZE

faster and more easily with completely PORTABLE BERNZ-O-MATIC

Instant lighting TORCH

Here is the ideal tool for all general factory maintenance and production line work.

- *LIGHTWEIGHT*—only 3 lbs. full.
- *PORTABLE*—fits in tool box or pocket. No heavy tanks or tangling hoses.
- *LOW COST*—only $6.95 (retail).
- *LONG BURNING*—disposable self-sealing cylinder has enough fuel for up to 15 hours burning time. When empty replace for only $1.95 (retail). Many accessories such as soldering tips, belt clip, stand, etc.

Stocked by leading hardware, plumbing, automotive and electrical wholesalers and mill supply houses. Or write for catalog page.

OTTO BERNZ CO., INC.
280 LYELL AVENUE • ROCHESTER, N. Y.

▲ For more details circle NED-676 E4 on enclosed inquiry slip ▲

In 1 minute

The Verifax method, Kodak's sensational new office aid, gives you—

3 copies

of any letter or other office record—legible, dry, photo-exact—and made . . .

on ordinary paper

instead of on specially treated paper. These 3 copies are produced from but *one* sheet of Verifax Matrix Paper for

only 4¢ apiece

which is real copying economy!

Only equipment needed is the compact Verifax Printer . . . priced at low $240. Amazingly simple to operate . . . can be used under present lighting.

Save now! Write for free Verifax booklet and names of near-by dealers.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Price quoted is subject to change without notice.

Kodak

▲ For more details circle NED-677 E4 on enclosed inquiry slip ▲

SOMETHING NEW IN HYDRAULICS

DENISON low-priced 2000 psi Series M Relief Valves

NOW . . . a wider range of pressure regulation than found in any other relief valve used in 2000 psi circuits today.

GET FACTS. New Free Bulletin No. 152 gives operating characteristics, capacities, sizes and dimensions for new line of Denison Series M Relief Valves. Write for it today.

THE DENISON ENGINEERING COMPANY
1151 DUBLIN ROAD • COLUMBUS 16, OHIO
LEADING DESIGNER AND MANUFACTURER OF HYDRAULIC PRESSES AND COMPONENTS
▲ For more details circle NED-678 E4 on enclosed inquiry slip ▲

How a 'Sexauer' Easy-Tite faucet washer costing pennies can save you $115.22 a year!

A tiny, 1/32" faucet leak wastes 95,040 gallons—*$24.14* worth*—of water yearly.

Hot water leakage is even costlier . . . Fuel waste adds upward to *$91.08*** more to the loss. Total down the drain: *$115.22.*

And this is the dollar loss caused by only *one* pinpoint leak!

Fuel Waste		Water Waste	Total Waste
Oil (792 gals.)	**$91.08	$24.14	$115.22
Coal (9,879 lbs.)	88.91	24.14	113.05
Gas (84,411 cu. ft.)	84.81	24.14	108.95

*Water costs (figured at $1.90 for 1,000 cu. ft.) authenticated by Hackensack Water Co. **Fuel costs authenticated by American Gas Association.

Save money; cut costs; stop leaks with dependable 'Sexauer' Easy-Tite faucet washers.

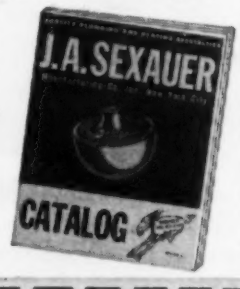
Built like a tire with Fiberglas reinforcement

Easy-Tite faucet washers are made of a special du Pont product, instead of rubber, and reinforced with Fiberglas. The result is a washer that resists the closing squeeze that splits and mushes ordinary washers. And Easy-Tites withstand destructive heat (up to 300° F. by test). These features explain why *'Sexauer' Easy-Tites outwear ordinary faucet washers 6 to 1!*

By avoiding labor on those 5 additional repairs, Easy-Tites cut today's high maintenance costs 83⅓%! But Easy-Tites not only save water, fuel, labor; they also prolong the life of expensive fixtures.

FREE CATALOG—Easy-Tite faucet washers are just part of the line of over 3000 'Sexauer' Triple-Wear plumbing repairs parts and patented precision tools.

Get complete information on Easy-Tites and other cost-cutting 'Sexauer' materials. Send for our FREE, new 118 page Catalog H. Fill in and mail the coupon today.



J. A. Sexauer Mfg. Co., Inc. Dept. AU-54
2503-05 Third Ave., New York 51, N. Y.

Gentlemen: *Please send me a copy of your FREE, new 118 page Catalog H.*

My name.....Title.....
Company or Institution.....
Street .....
City.....Zone.....State.....

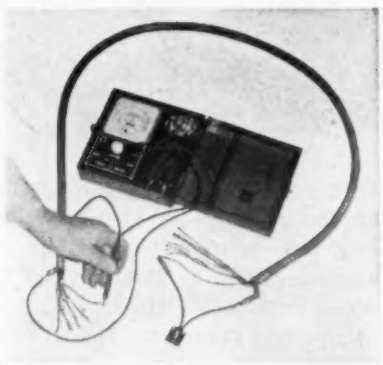
SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS
▲ For more details circle NED-679 E4 on enclosed inquiry slip ▲

NUMBER STAMP for serial or repeat numbering

Suitable for use by hand or in machines, the Numer-8 steel number stamp can be used to mark numerals in nameplates, forgings and other products of metal, plastic, fiber and wood. It can be used for serial numering from 0 to 999,-999 or for repeating a number or succession of numbers as often as desired. Model shown has a standard cylindrical shank for use in power presses, motorized marking machines and hand and foot-operated machines. Hand model has a flat shank and tempered striking head. The wheels, each with numbers from 0 to 9, are turned manually. Four types of numbers are available for various materials and special characters can be ordered. Made by **Acme Marking Equipment Co.,** 8020 Lyndon Ave., Detroit 38, Mich.

▲ For more details circle NED-680 E4 on enclosed inquiry slip ▲

ELECTRIC CIRCUIT TRACER identifies wires in groups of nine



Tracing of electrical lines and cable circuits is facilitated by the Trace-O-Meter, meter of which is actuated by small flashlight battery. Tagged jumper is connected to each circuit at remote end of line, then wires at other end are touched with probe. As each circuit is touched, the meter indicates the correct number as tagged by the jumper. Nine wires can thus be tested. Additional circuits can be identified and marked in groups of nine. If line is thought to be hot, it is tested with neon indicator. Instrument also identifies defective lines or circuits. Carrying case contains meter, probe and nine tagged jumpers and weighs 3½ lb. Made by **Jackson Electrical Instrument Co.,** 22-30 S. Patterson Blvd., Dayton 2, O.

▲ For more details circle NED-681 E4 on enclosed inquiry slip ▲

Magnesium Platform Trucks

Magline Inc.—Magnesium hand platform truck line is subject of illustrated data sheet MPT-151. Units are available with varying platform surfaces, and have two fixed and two caster 8-in. wheels with either solid or semipneumatic tires. Capacity is 1000 lb, and weight is approximately 50 lb.

▲ For more details circle NED-682 E4 on enclosed inquiry slip ▲

AGASTAT

Compact . . . Dust-Proof
TIME DELAY RELAYS
solenoid actuated—pneumatically timed

Introduces time delays into a-c or d-c circuits. Easily adjusted to provide delays ranging from 0.1 second to five or more minutes.

The AGASTAT is small, light, and operates in any position. Dust-proof timing chamber assures long operating life with a minimum of maintenance.

Write for Bulletin. Dept. A1-55

AGA

Division of Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth 3, New Jersey
▲ For more details circle NED-683 E4 on enclosed inquiry slip ▲

PUSH BUTTON INSULATION RESISTANCE TESTING

with

VIBROTEST

- RANGES TO 50,000 MEGOHMS
- NO CRANKING • NO LEVELING
- ALL-ELECTRIC • RUGGED
- FULLY PORTABLE • ACCURATE

VIBROTEST is built throughout to make insulation resistance testing FAST, EASY and ACCURATE for you. No laborious cranking...No mechanical parts to get out of order...Only two binding posts for ALL tests. Several Models have A. C. and D. C. volt ranges, as well as low resistance ohmmeter.

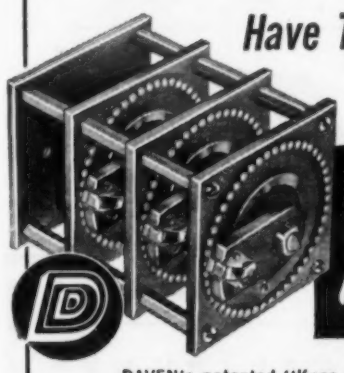
This is an instrument that makes insulation resistance testing a "push-button" affair! Ask for more information.

WRITE FOR BULLETIN 2-A

ASSOCIATED RESEARCH, Incorporated
"Precision Instruments Since 1936"

3786 WEST BELMONT AVENUE • CHICAGO 18, ILL.
▲ For more details circle NED-684 E4 on enclosed inquiry slip ▲

Only! DAVEN SWITCHES Have This Advanced Feature...



The "Knee-Action" ROTOR

DAVEN's patented "Knee-Action" Rotor permits a greater number of switch positions and poles in a smaller space than was ever possible before.

This exclusive DAVEN feature, developed by DAVEN's skilled engineering staff, is but one of the many contributions which DAVEN has made to solve difficult switch problems.

Daven also supplies switches from thousands of standard units or will engineer a special switch to meet your particular needs.

For any and every switch problem, CALL ON DAVEN!

THE DAVEN CO. 199 Central Avenue Newark 4, New Jersey

Write for FREE copy of DAVEN's new, 28-page brochure on SWITCHES!

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SPEED UP HAMMER AND TOOL OPERATIONS

Uses 6.5 cubic feet of air per minute at 80 p.s.i. Delivers from 0 to 13,000 completely controllable blows per minute as a result of Superior's exclusive metering trigger.

38 Tools Available For 150 Different Jobs

Each tool designed specifically for use with the Bantam Bully. Blank shanks available for new applications in your particular field.

Scaling Tools	Star Drills
Flat Chisels	Sheet Metal Cutters
Routing Chisels	Shear Cutter
Flat Sharp Edge Chisel	Cape Chisel
Flat Long Chisel	Spoon Face Chisels
Peening Tools	Muffler Cutter
Finishing and Forming Tools	Round Hose Hollow Gouges
Wedge Drivers	Wood Working Chisels
Oil Grooving Chisel	Wood Gouge

Write for further information to

SUPERIOR Pneumatic & Manufacturing, Inc.
4758 WARNER ROAD • CLEVELAND 25, OHIO
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SAVE UP TO 85% ON GOVERNMENT SURPLUS

MAGNI-FOCUSER

Has fine ground lenses of optical glass. Neutralizes eye strain from close work. Binocular design gives third dimensional vision. Allows freedom of both hands. Wear over glasses. Plastic frame with adjustable headband.

SIZES: 20" focal lgth. 1½ power – 14" focal lgth., 1¾ power, 10" focal lgth., 2½ power; 8" focal lgth., 2¾ power . . . . . price each ONLY 10.50

OTC TOOLS

See our complete line. Pullers for Gears, Bearings, Wheels, Pulleys, Bushings, Shafts, etc.

NEW 10 TON HYDRAULIC PRESS

SIZE: 60" high 27" wide 29" base

Use this Press in the Shop or take it with you on the job. Frame is 4" welded channel iron. Has 4½" stroke, 2½" diam. ram. Valve operates piston in both directions. Adjustable platform. Positive power Hand Pump with handle. 2000 PSI pressure gauge. 129.00

HYDRAULIC EQUIPMENT

We stock over 100,000 Hydraulic Cylinders in 106 different types and sizes. These can be adapted wherever tremendous power is needed to push, pull, hoist, mould or drive, etc.

SPECIAL

Gives 20,000 lb. thrust using 1500 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lb. thrust with 3000 PSI. Can also be used as a low pressure air system. Has 4" bore; 18" stroke; 30½" long. Ideal for shop. Part No. 29 USED 29.95 NEW 43.95

HYDRAULIC HAND PUMP

Operating pressure 1500 PSI. Cap., 1.5 cu. in per complete cycle . . . 12.75

HYDRAULIC ACCUMULATORS

A-2B FLOATING PISTON TYPE – 4"x 18" Built to stand 2,000 PSI 12.75

A-5 VICKERS – 10" dia. Ball type. Built to stand 2000 P.S.I. 24.50

NOTE: Stocks include bargains in Hydraulic Pumps – Valves – Motors – Boosters – as well as Oil, Water and Fuel Pumps, etc.

WORLD'S MOST AMAZING BARGAIN CATALOG

320 PAGE-1954 EDITION

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Pay by M.O. or check. P.O.'s accptd. from D&B firms. ½ deposit with C.O.D.'s. Prices FOB Los Angeles.

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free help!

for product designers!

Illustrated booklet tells how

MASONITE PRESDWOOD helps make better products

Could be just what you're looking for! Full of ideas to help you shape up new products, improve old ones. Masonite Presdwood,® that tough, grainless, all-wood hardboard, is so very versatile that designers and manufacturers are still discovering new ways to use it. You'll find it better—28 ways! Comes in panels of 44 types and thicknesses. Write today for "A Guide for Product Designers."

NATURALLY STRONGER WITH LIGNIN

PRESDWOOD WOOD MADE BETTER

MASONITE® CORPORATION

Dept. NED-5, Box 777, Chicago 90, Ill.

"Masonite" signifies that Masonite Corporation is the source of the product

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WIDELY USED THROUGHOUT THESE INDUSTRIES

Air Craft, Automotive, Bakeries, Breweries, Cement, Ceramics, Cheese, Construction, Distilling, Electrical, Food Processing, Foundries, Jewelry, Leather, Meat Packing, Machine Shops, Marine

CUT COSTS ON EVERY CLEANING JOB WITH —

COLD STEAM

Precise control of air and water blasts heavy dirt or rinses sheets and small parts with a heavy, penetrating spray.

HYDRO-AIR PRESSURE WASHER

- NO BACK SPLASH!
- BLASTS STUBBORN DIRT!
- HARMLESS TO FINEST FINISH!

$9.95

HYDRO-AIR Pressure Washer connects to regular air and hot or cold water supply. Composition rubber sleeve which fits over handle protects user's hand when hot water is used.

Inquiries invited from industrial cleaning compounders interested in resale.

Mining Equipment, Oil & Refinery, Optical, Paper, Pharmaceutical, Public Utilities, Repair Services, Railroad, Rubber, Ship Building, Stone Polishing, Textile, Tobacco, Transportation

D & M PRODUCTS, INC.

26 N. Raymond Ave., Pasadena 1, Calif.

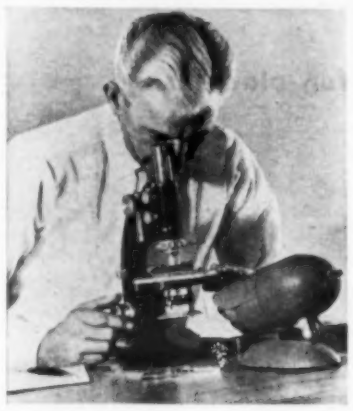
For more details circle NED-689 E4 on enclosed inquiry slip

WATER COOLERS supply up to 14 gallons per hour

Up to 14 gallons of ice cold drinking water are supplied each hour by Lectrik-Ice water coolers equipped with the Toe-Tronic foot control. Executive model has gleaming stainless steel finish, while model E-1050, intended to handle large volume in short time, has metallic brown finish. Dust and dirt are sealed out and lifetime supply of oil is sealed in. Coolers are powered by hermetically sealed unit and each model has splashproof top and automatic water-height control. Units can be furnished with refrigerated compartment for storage of food or beverages. Made by **Uniflow Mfg. Co.,** 1524 E. Lake Rd., Erie, Pa.

For more details circle NED-690 E4 on enclosed inquiry slip

POLARIZING MICROSCOPES equipped with double nosepiece



Ball bearing low position fine focusing stand, ball bearing revolving stage with 1-degree graduations and vernier reading to 6 minutes of arc and ball bearing nosepiece with ball stop are features of a series of industrial polarizing microscopes. Standard equipment is 10X and 45X strain-free achromatic objectives. Substage is of the variable focus type. Enclosure of the flip-in Polaroid analyzer optical elements in the body tube protects them against dust. Eyepieces are 7.5X and 10X Huygenian, with crosshairs and focusing eye lenses. Instruments can be furnished with a Opti-Lume integral substage illuminator, instead of the regular plano-concave mirror. Made by **Bausch & Lomb Optical Co.,** 727 St. Paul St., Rochester 2, N. Y.

For more details circle NED-691 E4 on enclosed inquiry slip

Industrial Trucks

Barrett-Cravens Co., Crescent Truck Div.—16-page illustrated bulletin "Barrett Palletier" gives complete data and suggests applications of eight fork truck models, having capacities up to 8000 lb. Electrically and diesel powered units are available with standard fork lifts up to 130 in. Other types of industrial trucks are also briefly described.

For more details circle NED-692 E4 on enclosed inquiry slip

FREE SAMPLE

- Makes and keeps belts soft and pliable
- *Pliable* belt "clings" to "surface" of pulley
- Dissolves hard "glaze" that makes belts slip
- *Only* belt preservative that has met and passed U. S. Government Tests and Requirements
- Sold with money-back guarantee since 1896

Cling-Surface Company, Inc.
1045 Niagara Street • Buffalo, New York

Please send me FREE sample can of Cling-Surface "50" Belt Preservative

Name.....
Title.....
Company.....
City.....State.....

For more details circle NED-693 E4 on enclosed inquiry slip

for those "HARD-TO-REACH" Places!

Lamson PLUG NUTS

The advantages of plug nuts are many-fold. Both the designer and the production man will find they can solve many special fastening problems that cannot be economically solved in any other way.

For instance, plug nuts are the ideal solution to "one way" fastening where it is difficult or impossible to work from both sides of the assembly.

Plug nuts can often eliminate or simplify machining operations, improve the product, simplify design or reduce assembly, and hence, labor costs.

If you have an application where you think you might use plug nuts, send us the size required, or details of the application, and we'll be happy to send sample nuts for trial.

For additional detailed information send for the Lamson Plug Nut Brochure.

PLUG NUT SIZES AND TYPES

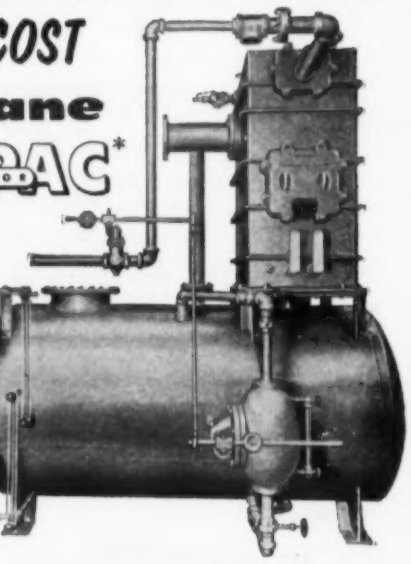
Plug Nuts are available in sizes ranging from No. 4 to ½" diameter—fine or coarse threads. Plug Nuts work in copper, brass, magnesium, aluminum, steel, alloy steel castings (die and sand) and forgings.

The LAMSON & SESSIONS Co.
1971 West 85th St. • Cleveland 2, Ohio
CLEVELAND AND KENT, OHIO • BIRMINGHAM • CHICAGO

For more details circle NED-694 E4 on enclosed inquiry slip

High Efficiency Deaerator at LOW COST

Cochrane UNI-PAC* DEAERATOR



for small and medium size plants

- Guaranteed to deliver zero oxygen water.
- Factory assembled.
- Completely self-contained.
- Easy to install.
- Minimum piping required.
- Wide range of heater sections, storage tanks and accessories to meet any plant requirement.

Now, you can have *zero oxygen* feedwater for your boilers at a cost within reach of the smallest plant!

The Cochrane UNI-PAC DEAERATOR delivers water heated to the saturation temperature of the steam used with a guaranteed zero oxygen content as determined by accepted tests (less than 7 parts per billion).

The UNI-PAC DEAERATOR is designed for either right or left hand installation, and in a wide range of outlet and storage capacities.

For complete details of the UNI-PAC DEAERATOR, *use the coupon below.*

*Trademark

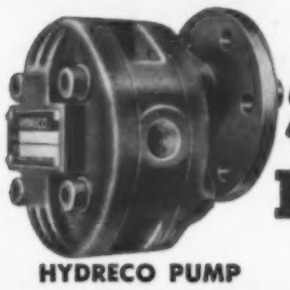
Cochrane CORPORATION
3143 N. 17TH STREET, PHILADELPHIA 32, PENNSYLVANIA
C100.5

COCHRANE CORPORATION
3143 N. 17th St., Philadelphia 32, Pa.

Please send me a copy of Publication 4643 on the Cochrane UNI-PAC DEAERATOR.

NAME_____ TITLE_____
COMPANY_____
ADDRESS_____
CITY_____ STATE_____

For more details circle NED-695 E4 on enclosed inquiry slip



HYDRECO PUMP

Get the Facts on **HYDRECO** *Oil Power!*

WHAT KEEPS HYDRAULIC PUMPS AND MOTORS "ON THE JOB" DAY IN AND DAY OUT?...See Bulletin 139!

It takes more than pressures, speeds and capacities to keep equipment performing dependably, economically and when you want it. The invisible factors that do not appear in the specifications make the deciding difference in hydraulic controls. It is these PLUS factors that keep HYDRECO PUMPS and MOTORS on America's leading hydraulically-equipped Materials Handling, Earth Moving and Industrial Machinery.

HYDRECO MOTOR

Write –

Bulletin No. 139 has the facts you want to know about HYDRECO Pumps and Motors.

HYDRECO DIVISION
THE NEW YORK AIR BRAKE COMPANY
1108 EAST 222nd STREET • CLEVELAND 17 • OHIO

For more details circle **NED-696 E4** on enclosed inquiry slip

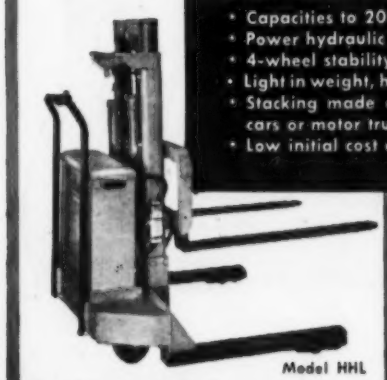
the multi-purpose lifting machine for the small shop

STUEBING DESIGNED • STUEBING ENGINEERED • STUEBING BUILT

Hydrolift Straddle Stacker

here are the FEATURES . . . you want most in a mobile stacker

- Capacities to 2000 lbs.
- Power hydraulic telescopic lift.
- 4-wheel stability.
- Light in weight, highly maneuverable.
- Stacking made easy inside railroad cars or motor trucks.
- Low initial cost and upkeep.



Model HHL

The Hydrolift
fulfills the demand for an all-purpose hand truck in the average plant. It can be used for handling pallets, skids, dies, drums, barrels, sacked goods, and for numerous other non-routine jobs.

LIFT TRUCKS INC. 2423-2431 Spring Grove Ave. CINCINNATI 14, OHIO

For more details circle **NED-697 E4** on enclosed inquiry slip

SIMPLIFY YOUR MATERIALS HANDLING

SEND FOR FREE CATALOG OF FIBRE CONTAINERS

Spaulding Fibre Receptacles make storage and handling easier. They're tough, lightweight, shock-proof, resistant to impact and abrasion, will not splinter or corrode. Boxes, barrels, trays and trucks of all sizes, types and weights. Mail coupon today.

Spaulding

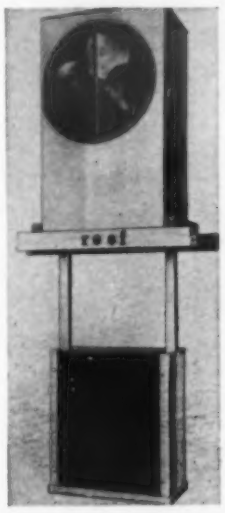
SPAULDING FIBRE COMPANY, INC., Dover, N. H.

Please send me your catalog on Spaulding's complete line of Fibre receptacles.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

For more details circle **NED-698 E4** on enclosed inquiry slip

AIR CONDITIONER
self-contained roof unit has 2-ton refrigerating capacity



Plants and other one-story structures can make effective use of this self-contained air conditioner which mounts on any type roof—flat, arched or saw tooth, and of any construction. Units, which have 2-ton refrigerating capacity, can be centered in hot spots, hot process areas or engineering departments. Dust and oil vapors are removed from air at each unit.

Mounted on the roof are the 2-hp Freon compressor and condenser. Refrigerant is circulated through two supporting stanchions to evaporators hanging below roof. Cooling is performed from this hanging unit-cooler by fan blowing air over suspended aluminum evaporator coil. Plant maintenance crews can easily install units through prepared openings in roof. Made by **Kritzer Products,** Dept. N, 1234 W. Le Moyne St., Chicago 22, Ill.

For more details circle **NED-699 E4** on enclosed inquiry slip

ELECTRIC CARS
three models for plant usage

Three models of Electri - Cars designed for plant usage are highly practical for quickly moving maintenance men to plant trouble spots, as well as superintendents and foremen who must get around the plant. Lugger model with 1000-lb payload capacity will carry small equipment, tools and trays, while Courier single seat model is suitable for mailroom deliveries, or use by foremen and superintendents. Pic-A-Bac model for group transportation will carry four persons back to back. Features are welded steel construction heavy-duty pneumatic tires, ball or roller bearings on revolving parts, four forward and reverse speeds and easy-to-operate battery charger. Made by **Victor Adding Machine Co.,** 3900 N. Rockwell St., Chicago 18, Ill.

For more details circle **NED-700 E4** on enclosed inquiry slip

Packaged Steam Generator

Boiler Engineering & Supply Co., Continental Boiler Div.—Minimum efficiency of automatic boilers described and illustrated in 6-page folder BE3 is 80 per cent. All units feature two-pass system with forced draft and 99 per cent plus dry steam. Sizes range from 20 to 500 hp on the oil or gas fired boilers.

For more details circle **NED-701 E4** on enclosed inquiry slip

SAFETY EQUIPMENT FOR ALL INDUSTRIES

THE SCIENTIFIC APPROACH To **A NEW TYPE FACE AND HEAD SHIELD** THE **IPCO TEL-A-SHIELD** FOR

Patent No. 2169745

Chipping • Grinding
Spot Welding • Scaling
Metal Sawing • Buffing
Moderate Heat Operations
Flying Particles of Metal and Glass.

Broader coverage for the face, head and neck. Ventilated top, sides and bottom allows for free air currents. Cooler on the inside, minimizes breathing of devitalized air, improved audability. Plastic window .060" for impact resistance. New comfort type adjustable headgear.

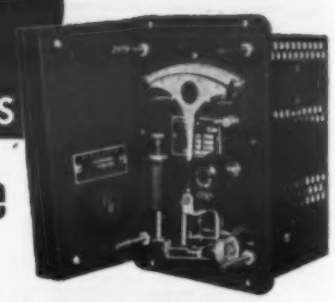
WRITE FOR BULLETIN NO. 53

IPCO *Safety Equipment for all Industries*

INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle **NED-702 E4** on enclosed inquiry slip

Rocking Contact V-00 & 221 VOLTAGE REGULATORS



Fast...Accurate Response ON SMALL GENERATORS

Rocking Contact voltage regulators are available in two types for use on small ac generators with direct-connected exciters — TYPE V-00 for generators to 157 kva maximum at 3600 rpm; TYPE 221 for generators to 438 kva maximum at 3600 rpm.

Rocking Contact voltage regulators operate directly in the exciter field circuit to give fast response to voltage changes. No sluggish, time-wasting relays. No vibrating or sliding contacts to wear out. A small movement of the *Rocking Contact* sector over a curved commutator covers the entire regulating range

Write for Bulletin 14B6143A, Allis-Chalmers, Milwaukee 1, Wis.
A-4048

Rocking Contact is an Allis-Chalmers trademark.

Movement of a fraction of an inch changes the field resistance from "all out" to "all in" position in very fine steps.

ALLIS-CHALMERS

For more details circle **NED-703 E4** on enclosed inquiry slip

Du Pont Blast-Free Industrial Explosive Rivet before expansion. (Cross section shows minute charge contained in Rivet shank.)

Expanded Rivet locks parts in place. Practically noiseless when being set. And no possibility of damage to adjacent structures.

NEW DU PONT BLAST-FREE RIVETS ELIMINATE DAMAGE TO ADJACENT STRUCTURES

On some jobs, rivets are "up against it" in more ways than one! Take work on insulated or honeycomb panels. Tough: often "blind". . . *always* tricky. More important, adjacent structures lie very close to fastener's shop end. Can easily mean deformation . . . weakened assembly.

Why risk trouble . . . when you can easily solve tough problems with *new* Du Pont Blast-Free Industrial Explosive Rivets? Here's how: Downward force of blast is sealed in. When heated iron is applied, Rivet sets quickly . . . almost silently . . . shank fills drilled hole . . . parts are securely joined. Closed shop end can't deform even the closest adjacent structures. Ideal for fastening plastic circuits in electronic equipment . . . and for any delicate assemblies.

What's more, Du Pont Blast-Free Rivets take the fight out of "blind" and awkward fastening. Quick- and easy-setting. Up to 25 a minute, with no after-finishing required. One-man job, too. Work *only* from head side of Rivet. No need for bucking bar, other "extras."

So to handle close or delicate work . . . and save time in doing it . . . start using Du Pont Blast-Free Industrial Explosive Rivets. For full details write for free 32-page booklet. Available from your nearest jobber or E. I. du Pont de Nemours & Co. (Inc.), Explosives Department, Wilmington 98, Delaware.

DU PONT *Hi-Speed* INDUSTRIAL EXPLOSIVE RIVETS
A Product of Du Pont Explosives Research

DU PONT Better Things for Better Living . . . through Chemistry

For more details circle **NED-704 E4** on enclosed inquiry slip

SAVE TIME MONEY MATERIAL WORK

Chromalox Catalog 50 Shows You

The Chromalox Catalog is filled with valuable data on the use of electric heat to lower costs and increase production in your plant. It shows over 15,000 types and sizes of electric heaters for heating air and other gases, liquids, viscous fluids and solids; for heating dies, molds, platens, moving parts and other equipment. A section is devoted to the new all-metal radiant heaters for baking, curing, drying and other infrared applications. Put Chromalox Electric Heaters to work in your plant.

WRITE FOR YOUR COPY OF CHROMALOX CATALOG 50 TODAY.

Industrial Division EDWIN L. WIEGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.

See other ad on pg. 4

CHROMALOX fb-24

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ For more details circle NED-705 E4 on enclosed inquiry slip ▲

HERE'S WHAT YOU WANT TO KNOW about the most sensitive and accurate thermostatic control

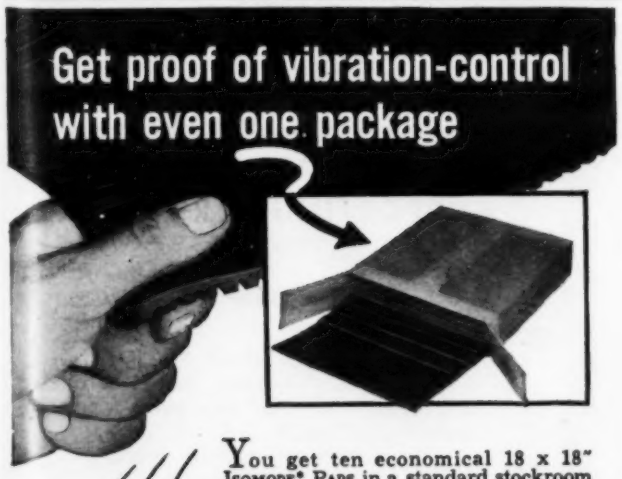
Catalog 400 is a reservoir of late and authoritative information about modern thermostatic control. It gives full data on the Fenwal THERMOSWITCH® unit, the control with the single-metal shell which expands or contracts with temperature variation. This shell itself activates the electrical contacts — its response is instantaneous. The Fenwal THERMOSWITCH control is widely used in the newest type aircraft where control must be quick, positive and accurate. It is also widely used throughout industry for temperature regulation in machinery and processing equipment and to control variables of many kinds where temperature is a factor. It is so economical it can be used anywhere.

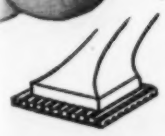
You should know more about this most modern of thermostatic controls. Our engineers are glad to work with yours on special projects. No charge for Catalog 400. Write **Fenwal Incorporated, 85 Pleasant St., Ashland, Mass.**

Fenwal THERMOSWITCH®
Electric Temperature Control and Detection Devices
SENSITIVE...*but only to heat*

▲ For more details circle NED-706 E4 on enclosed inquiry slip ▲

Get proof of vibration-control with even one package





You get ten economical 18 x 18" ISOMODE* PADS in a standard stockroom package. At the recommended Pad loading of 50 lbs per sq. in., this gives you enough mountings for up to 80 TONS OF MACHINERY. Simply cut to required size, place the pads under legs or base—and you begin to see proof of vibration-control with benefits like these:

Machines stay put without bolts or lag screws . . . Noise diminishes . . . Even punch press shocks are absorbed . . . Machines stay tighter longer . . . Less cracks in floor and building.

Write for prices and detailed Bulletin No. 415.

*Trade Mark

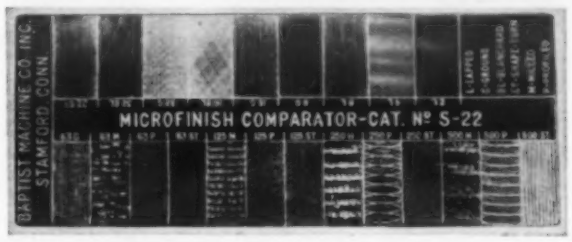
ISOMODE* PADS are produced by

THE MB MANUFACTURING COMPANY, INC.
1066 State Street, New Haven 11, Conn.

▲ For more details circle NED-707 E4 on enclosed inquiry slip ▲

FINISH COMPARATOR for surface flatness comparisons

Surface flatness comparisons can readily be made by inspectors, machinists and others using S22 comparator. It consists of 22 different established flat-



surface roughness specimens ranging from 2 to 500 microinches in conformance to ASA standards. It is designed to be placed alongside work to be compared, which is then judged on basis of either eye or touch. Comparator is made from corrosion-resistant nickel and is packaged in a leather pocket case. Made by **Baptist Machine Co.**, Ludlow St., Stamford, Conn.

▲ For more details circle NED-708 E4 on enclosed inquiry slip ▲

BACKSTAND IDLER for grinding, polishing operations

Heavy duty production grinding and intermittent light polishing jobs that call for frequent setup changes can be performed by using the "61" universal backstand idler attachment with any type of wall, bench and floor grinder. Coated abrasive belts of the same length can be employed with contact wheels of various diameters. Belt widths varying from ½ to 8 in. can be used with the unit which has a belt tracking mechanism and sensitive tension adjustments. Model 432 is for floorstand operation and model 431, for floor, wall or bench installation. Each is available as an individual unit or as part of a complete packaged backstand installation with a Carborundum serrated T61 contact wheel. Made by **Carborundum Co.**, Dept. NED, P. O. Box 337, Niagara Falls, N. Y.

▲ For more details circle NED-709 E4 on enclosed inquiry slip ▲

Material Handling Containers

Union Metal Mfg. Co.—Broad line of containers for use in material handling industry are described and illustrated in 4-page booklet MH-811. How Work-O-Matic units are used to work-position, dump, store, collect and transfer a variety of materials and scrap is related. Also described are skid platforms, pallets, show boxes and Vu-O-Matic rotary storage stands.

▲ For more details circle NED-710 E4 on enclosed inquiry slip ▲

IT'S FREE!

new **EQUIPTO BOOKLET**

Helps lick toughest storage problems!

Here's "must" reading for anyone who plans, buys, or uses storage equipment. Shows how you can have custom-arranged facilities, yet pay only the price of standardized units. Learn how to survey, make floor plans and elevations of your own particular requirements. Change arrangement of components anytime. Buy only what you need; expand as you go. Mail coupon today for your free copy.

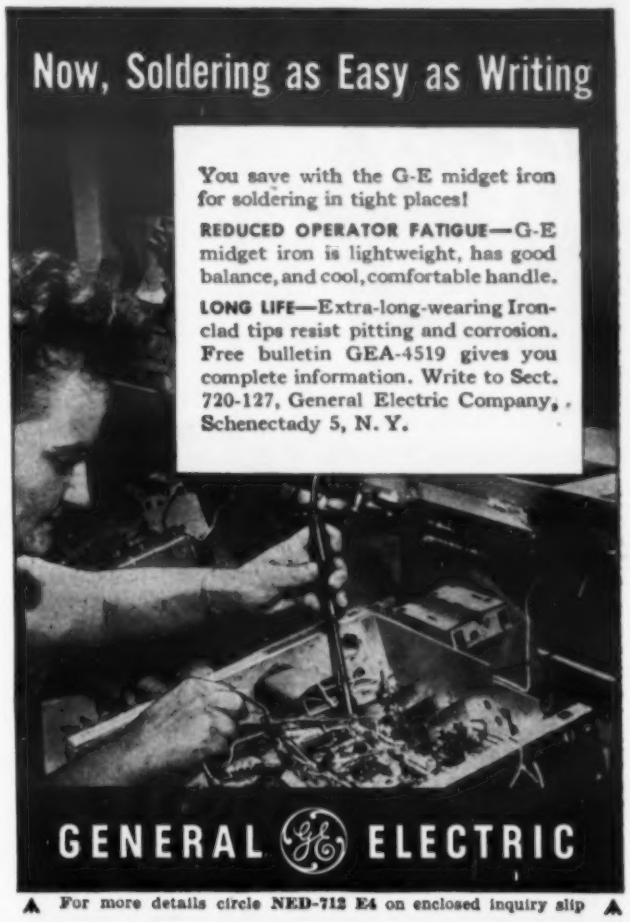
EQUIPTO — 690 Prairie Avenue, Aurora, Illinois
Please send me copy of new Equipto Booklet entitled "How to Solve Your Storage Problems". I understand that there is no charge or obligation of any kind.

NAME _____
FIRM NAME _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

Equipto Division of Aurora Equipment Company 690 Prairie Avenue, Aurora, Illinois

▲ For more details circle NED-711 E4 on enclosed inquiry slip ▲

Now, Soldering as Easy as Writing



You save with the G-E midget iron for soldering in tight places!

REDUCED OPERATOR FATIGUE—G-E midget iron is lightweight, has good balance, and cool, comfortable handle.

LONG LIFE—Extra-long-wearing Iron-clad tips resist pitting and corrosion. Free bulletin GEA-4519 gives you complete information. Write to Sect. 720-127, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

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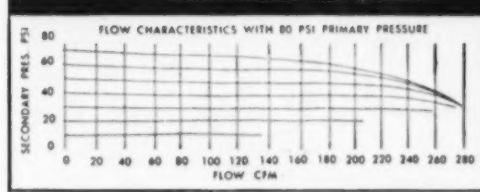
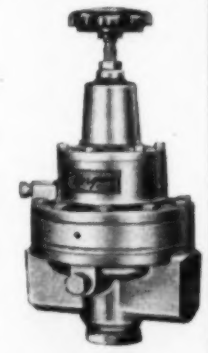
performance data prove *NEW*

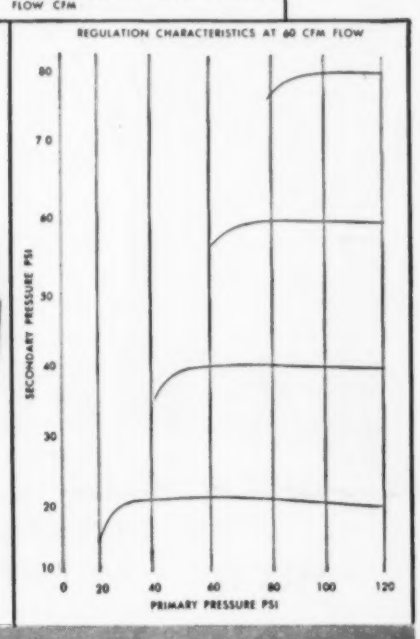
Norgren Pilot-Controlled Regulators

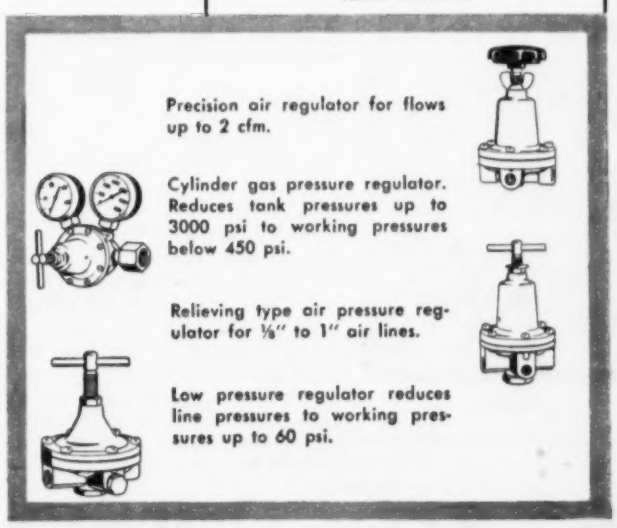
- have greater capacity
- are more accurate





Norgren Pilot-Controlled Regulator, Integral Type; also available with remote control.





Precision air regulator for flows up to 2 cfm.

Cylinder gas pressure regulator. Reduces tank pressures up to 3000 psi to working pressures below 450 psi.

Relieving type air pressure regulator for ⅛" to 1" air lines.

Low pressure regulator reduces line pressures to working pressures up to 60 psi.

PIONEER AND LEADER IN OIL-FOG LUBRICATION FOR 26 YEARS

Valves • Filters • Regulators • Lubricators • Hose Assemblies

WRITE FOR NEW CATALOG No. 600

C. A. Norgren CO.
3405 So. Elati, Englewood, Colo.

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LOUDNESS REDUCED 50%*

Inside a Burgess-Manning Acousti-Booth

- The hushed interior of a Burgess-Manning Acousti-Booth provides a quiet, restful place to hear well.
- Light, sturdy construction for ease of moving . . . compact design.
- Doorless construction . . . light, airy, well ventilated.
- Wall and floor models.
- Suited to any noisy location.

Model 211 Floor Booth

Model 602 Wall Booth

* Based on studies by a prominent research organization.

Write for Bulletin A-124

BURGESS-MANNING COMPANY

Architectural Products Division

5970-C Northwest Highway, Chicago 31, Illinois

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TAKES THE BREAKS OUT OF VIBRATING LINES

PENFLEXWELD

Corrugated . . . Flexible . . . Jointless Tubing

HERE'S A JOB just "made" for Penflexweld: the steam lines of a paper laminating machine. Steam pressure —100 psi . . . machine movement—¼" constantly . . . vibration—terrific. The Penflex Engineer recommended braided Penflexweld Tubing with Metseal couplings.

Penflexweld, the corrugated, all-metal welded tubing is flexible . . . resists bursting, crushing, breaking . . . is heat and flame-resistant . . . is "seep proof" . . . absorbs vibration. Have you a job for it?

Send today for the new illustrated data book on "Flexineering."

Pennsylvania Flexible Metallic Tubing Co., Inc.

7208 Powers Lane, Phila. 42, Pa.

PENFLEX

HEART OF INDUSTRY'S LIFE LINES

For more details circle NED-715 E4 on enclosed inquiry slip

THIS... non-slip flooring PLUS THIS low budget price

ADDS UP TO THIS A.W. SUPER-DIAMOND

Pattern ½ actual size

When you want real foot safety at an economical price, install *A. W. Super-Diamond.* No other flooring offers such safety, easy maintenance and durability at so low a cost.

Super-Diamond's exclusive engineered raised-diamond pattern puts 40 anti-skid traction points in every footstep.

Super-Diamond takes hard blows and heavy loads—resists fire, heat and most chemicals. And it cuts maintenance costs because it's so easy to clean with hose, mop or broom—has no cracks or corners to collect dirt. Send coupon today for a free copy of our newest booklet on foot safety *and* economy with *Super-Diamond.*

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ROLLED STEEL FLOOR PLATE

ALAN WOOD STEEL COMPANY

CONSHOHOCKEN, PA.

Please send your new, free booklet SD-4 on Super-Diamond for safety.

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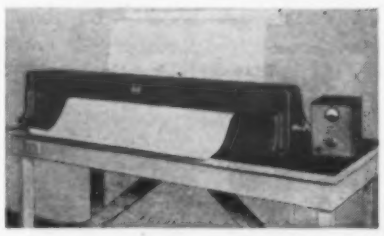
Company_____

Address_____

City_____ Zone____ State____

For more details circle NED-716 E4 on enclosed inquiry slip

METAL DETECTOR
locates ferrous, nonferrous metals



Continuous inspection of various types of textiles for presence of magnetic or nonmagnetic, ferrous or nonferrous metals is possible with the RCA electronic metal detector. Materials moving at speeds from 25 to 1000 fpm can be inspected. Detectors are built from standard components in any width required by the application. For most applications an aperture height of 1 in. is adequate, but other heights can be furnished. Controls can be set to stop a conveyor, light a warning light, sound a horn, spray-mark a contaminated area, or perform any combination of these functions. Made by **Radio Corp. of America,** Industrial Products Section, Front & Cooper Sts., Camden 2, N. J.

For more details circle NED-717 E4 on enclosed inquiry slip

HAND PUMP
designed to resist corrosion

High-vacuum hand pump will pump a wide variety of liquids including petroleums, oils and cutting compounds and is adaptable to barrel, skid tank or underground tank operation. Complete line of accessories includes discharge spout, hose and nozzle, bottle filler spout, drip pan, meter and shut-off nozzle. Sliding suction pipe attachment can be extended from 22 to 40-in. long. Designated series 688, pump has stainless steel shaft and valve parts, while other internal components are Permolited to resist corrosion. Self-priming unit is set for a liquid delivery of 20 gpm at 100 strokes and has a double-action diaphragm. It will pump a 20-ft lift under normal conditions. Made by **Tokheim Corp.,** 1554 Wabash Ave., Ft. Wayne, Ind.

For more details circle NED-718 E4 on enclosed inquiry slip

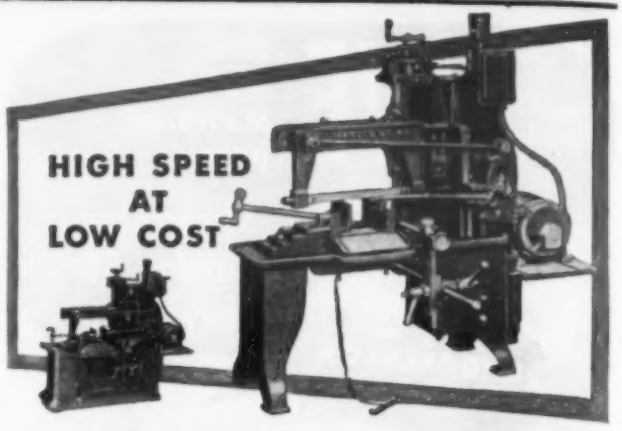
Foundry Equipment

Link-Belt Co.—Foundry mechanization is subject of 44-page well-illustrated bulletin 2423. Descriptions of sand preparation and mold, core, casting and sand handling equipment are supplemented by over 70 pictures of actual installations. Bulletin is designed to help either in selecting a specific piece of equipment to improve a particular production phase or as an aid in planning a completely mechanized foundry installation.

For more details circle NED-719 E4 on enclosed inquiry slip

THE JOHNSON CORP., 812 WOOD ST., THREE RIVERS, MICH.

For more details circle NED-720 E4 on enclosed inquiry slip



For tool room, stockroom, or maintenance shop, this 6" x 6" capacity hack saw is ideal when you want speed, accuracy, and economical operation at lowest possible investment.

Embodies similar design principles and features of MARVEL heavier duty production saws. Its shaper-link action that provides quick return stroke, and its heavy pressure screw feed are two exclusive MARVEL features that provide FASTER cutting than can be obtained with any other metal saw in its price class.

Single speed, 2-speed, and 4-speed models are available, to suit all types of applications where materials of different hardness and alloy characteristics are to be cut. Cabinet base or open-leg base are optional.

MARVEL Metal Cutting SAWS

Better Machines—Better Blades

ARMSTRONG-BLUM MFG. CO.

"The Hack Saw People"

5700 Bloomingdale Ave. Chicago 39, U.S.A.

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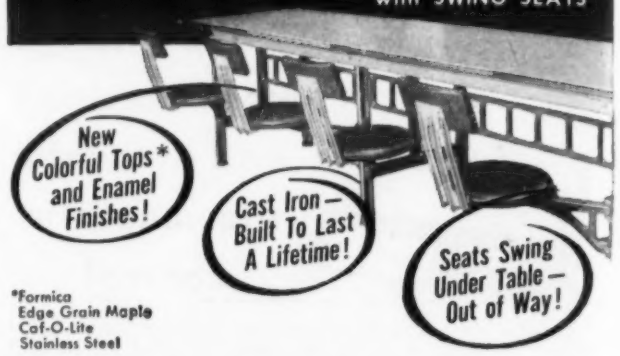
INDUSTRIAL AND INSTITUTIONAL

SECTIONAL TABLES

with SWING SEATS



*Formica
Edge Grain Maple
Caf-O-Lite
Stainless Steel

MAXIMUM SEATING CAPACITY IN LIMITED SPACE!

Colorful tops and wide range of enamel paint finishes add attractive new color to industrial and institutional dining rooms and recreation rooms. Units seat 4 to 24 people. Attached seats (with or without backs) swing under table to eliminate crowding, noise and confusion of loose chairs and tables. Ideal for industry, schools, hospitals and institutions.

WRITE TODAY For NEW Catalog!

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The Chicago Hardware Foundry Co.

"Dependable Since 1897"

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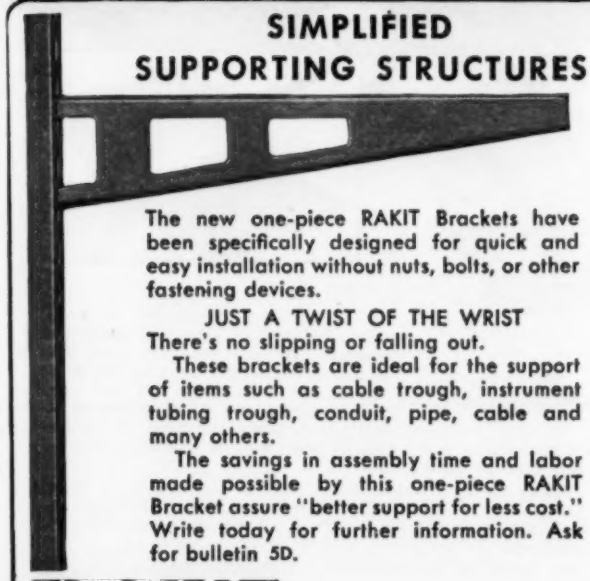
For more details circle NED-722 E4 on enclosed inquiry slip

RAKIT®

QUICK MOUNTING BRACKETS

SIMPLIFIED SUPPORTING STRUCTURES



The new one-piece RAKIT Brackets have been specifically designed for quick and easy installation without nuts, bolts, or other fastening devices.

JUST A TWIST OF THE WRIST

There's no slipping or falling out.

These brackets are ideal for the support of items such as cable trough, instrument tubing trough, conduit, pipe, cable and many others.

The savings in assembly time and labor made possible by this one-piece RAKIT Bracket assure "better support for less cost." Write today for further information. Ask for bulletin 5D.

RAKIT CORPORATION

711 SOUTH 50th STREET • PHILADELPHIA 43, PA.

For more details circle NED-723 E4 on enclosed inquiry slip

FREE DOWEL PIN BULLETIN

Tells How to Save Assembly Time!

DANLY

DOWEL PINS

- Accurately hardened—will not upset!
- Precision ground to limits of ±.0001"
- Two complete size ranges—standard and oversize
- Tapered lead end—easy to drive

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Avenue
Chicago 50, Illinois

Complete Data!

Send For This Free Bulletin Today!

For more details circle NED-724 E4 on enclosed inquiry slip

NOW in colors too . . . IRVINGTON Silicone Rubber-Coated Braided Glass Tubing

This extra-flexible Irvington Class "H" insulating tubing — Silicone *Rubber*-Coated Braided Glass is now available not only in standard white, but also in a range of colors on minimum run requirements. Tubing stays flexible at both high and low temperatures. Made for wire sizes from #24 to #0.

Write for technical data sheet.

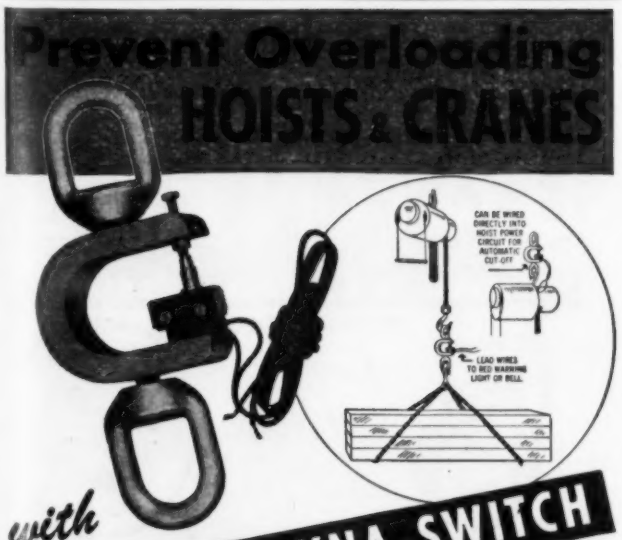
LOOK TO IRVINGTON FOR INSULATION LEADERSHIP

IRVINGTON VARNISH & INSULATOR
DIV. OF MINNESOTA MINING & MFG. CO.
14 ARGYLE TERRACE, IRVINGTON 11, N. J.

Plants: Irvington, N. J.; Monrovia, Calif.; Hamilton, Ontario, Canada

For more details circle NED-725 E4 on enclosed inquiry slip

Prevent Overloading HOISTS & CRANES



with DILLON DYNA-SWITCH

When load limit is exceeded, Dyna-Switch trips a sensitive micro-switch which may be connected to a warning bell or light. If Dyna-Switch is connected into the motor, the overload automatically cuts motor out, and load must be returned to floor and surplus weight removed before pickup can be completed.

Top working range is 10,000 lbs. Set at factory for any desired cutout point, but can also be re-set in the field if working conditions change. Low in cost—always on guard. Write or wire today for illustrated bulletin.

SALES REPS.: Territories open—WRITE

W. C. DILLON & CO., INC.
14620NE Keswick St., Van Nuys, Calif. (Suburb of Los Angeles)

For more details circle NED-726 E4 on enclosed inquiry slip

AUTOMATIC WELDING MACHINES in both disk and point types, are controlled with Thyratron unit

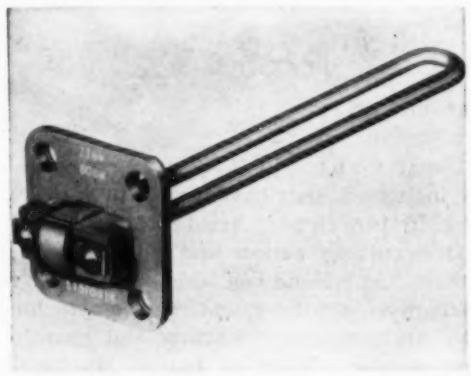
Both disk and point type automatic welding machines are included in expanded company line and are used for high speed welding of precious and semiprecious metal contacts to leaf springs, small contact arms and other instrument components. Point welder will handle gold, silver, platinum, palladium and iridium. Diameters range from 0.022 up to 0.075 in. on fine silver.

Location accuracy of contacts can be held ±0.001-in. Disks can vary in diameter from 0.025 to 0.187-in. in fine silver, or to 0.125-in. in other materials. Thickness of disk can range from 0.005 to 0.030 or 0.040-in. Both machines have production rate from 1200 to 2400 contacts per hour. Welding current is controlled with Thyratron unit, allowing selection at will of current from 1 to 10 cycles. Made by **Sheffield Corp.**, 721 Springfield St., Dayton 1, O.

For more details circle NED-727 E4 on enclosed inquiry slip

WATER TANK HEATERS available ratings from 600 to 5000 w

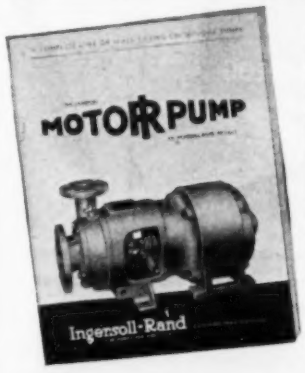
Power ratings ranging from 600 to 5000 w are available in Corox element water tank heaters which have tube loop lengths from 6 to 15 in. All parts exposed



to water including head flange are fabricated from copper for corrosion resistance, and watertight terminals prevent damage to tank or steel backup plate. Steatite terminal block provides electrical insulation and gripper-type terminals give quick and firm connection. Heaters are also applicable to dishwashers, laundry equipment, steam tanks and generators and other similar equipment. Made by **Westinghouse Electric Corp.**, P. O. Box 2099, Pittsburgh 30, Pa.

For more details circle NED-728 E4 on enclosed inquiry slip

has all the INFORMATION you want about pumps/



The new Ingersoll-Rand pump catalog is the last word on pump information. It shows all types of close-coupled units, and tells where they are used and how. It has specifications for every type pump in the 5 to 1800 gpm range . . gives valuable pump engineering data . . . shows typical pump problems. Send for your copy today.

Use the coupon below.

873-9

INGERSOLL-RAND
11 BROADWAY, NEW YORK 4, N. Y.

Please send me your new pump catalog No. 7093-D.

Name.....
Company.....
Address.....
City.....Zone.....State.....

For more details circle NED-729 E4 on enclosed inquiry slip

UNION METAL STEEL SHOP BOXES

...an ideal type for your demands!

- Shown here are only three of the many types and sizes of steel shop boxes offered by Union Metal. Special styles and special boxes can *also* be economically developed to meet specific requirements.

You will find that shop boxes engineered by Union Metal not only improve material handling, but they hold up better due to advanced construction features. You get prompt delivery, too.

For additional information on construction, dimensions, optional handles, and specially designed boxes, write to The Union Metal Manufacturing Co., Canton 5, Ohio, and request Bulletin MH-807 A.

UNION METAL
Material Handling Equipment

For more details circle NED-730 E4 on enclosed inquiry slip

NEVER

for MAY-FRAN hinged-steel belt

Built for the tough jobs . . . MAY-FRAN hinged-steel conveyor belting withstands conditions that quickly destroy ordinary belts. Its special design and sturdy construction make it suitable for conveying hot forgings, heavy castings, abrasive scrap and many other items.

MAY-FRAN hinged-steel belting can be furnished in widths from 6 inches to 6 feet and in any length or carrying capacity. Solid and perforated links are available in 2½ to 12-inch pitch lengths.

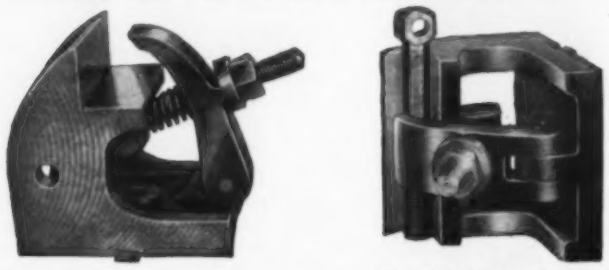
For complete information on the unique MAY-FRAN hinged-steel belting, write today for Bulletin MF-530.

MAY-FRAN ENGINEERING, INC.
1711 CLARKSTONE ROAD • CLEVELAND 12, OHIO

For more details circle NED-731 E4 on enclosed inquiry slip

· HART ·
MILLING FIXTURES
MASTERS OF 1000 SETUPS

ELIMINATE 1000 NEEDS FOR SPECIAL—
AND EXPENSIVE JIGS AND FIXTURES



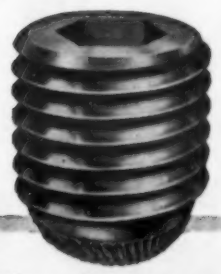
USED IN VERTICAL POSITION

HART MILLING FIXTURES make themselves popular and profitable in any shop—are used in either horizontal or vertical position. Will hold round, hexagonal, octagonal, or square stock, aligning the work with the machine. Grip holds the work on bottom as well as on back. Generally sold in pairs. Made in 4 sizes—to hold stock from ½ to 5 inches.

Write for new bulletin.

WALTER W. FIELD & SON INC.
39 HAYWARD STREET, CAMBRIDGE 42, MASS.

For more details circle **NED-732 E4** on enclosed inquiry slip



UNBRAKO

self-locking
CUP POINT

The point that won't work loose

Unique, counterclockwise knurls on the cup point make these UNBRAKO Socket Set Screws self lockers, prevent them from loosening. UNBRAKO Self-Locking Set Screws stay tight even in poorly tapped holes, reduce maintenance costs and cut production losses. Standard sizes—#4 to 1" in a full range of lengths—are available for prompt delivery from your UNBRAKO industrial distributor. Write for UNBRAKO Standards. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

UNBRAKO SOCKET SCREW DIVISION **SPS**
JENKINTOWN PENNSYLVANIA

For more details circle **NED-733 E4** on enclosed inquiry slip

NEW SLIDE CHART

on *Carpenter* Stainless Steels

gives you information to help you select the proper Stainless for

Drawing	Machining
Forging	Riveting
Heading	Roll Forming, etc.

This new Carpenter chart also contains valuable data on the physical constants of many Stainless grades. For your copy, just return the coupon.

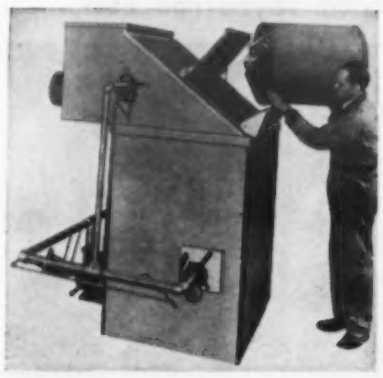
THE CARPENTER STEEL COMPANY
118 W. Bern St., Reading, Pa.

Please send me a copy of the new Carpenter Stainless Slide Chart.

NAME _____ TITLE _____
(Please Print)
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For more details circle **NED-734 E4** on enclosed inquiry slip

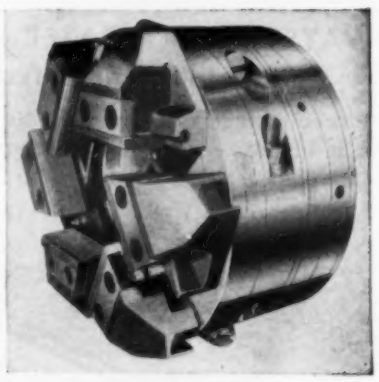
INCINERATORS
in 10, 15 and 20 bushel capacities



Available with capacities of 10, 15 and 20 bushels, C-2 incinerators employ downdraft principle to eliminate smoke and odor. They are designed to burn either wet or dry refuse. Pressurized fuel is fed to multiple burners for primary and secondary combustion. Secondary combustion chamber incorporates a smoke baffle and settling chamber. Units will burn natural, manufactured or bottled gas or oil, or can be delivered for fuelless burning of dry refuse. They have firebrick lining and can be fitted with automatic fuel shutoff and a variety of other optional controls. Incinerators are shipped knocked-down and can be set up without special tools in less than 3 hours. They are UL approved. Made by **Winnen Incinerator Co.**, Dept. A, 932 Broadway, Bedford, O.

For more details circle **NED-735 E4** on enclosed inquiry slip

THREADING HEAD
features 2½ to 6-in. pipe capacity



Capacity for threading 2½ to 6-in. pipe and 2⅞ to 6⅝-in. bolts is featured by this six-chaser Lanco threading head, a revolving die head designed for use on the No. 4, Model C Landmaco threading machine. Six chasers instead of conventional four provide increased distribution of cut with resultant lighter chip per chaser, greater support for workpiece, free cutting action and minimum of out-of-round threading. Head can be equipped with internal trip mechanism, a reamer and reamer attachment for simultaneous threading, reaming and chamfering of pipe and nipples. Made by **Landis Machine Co.**, 40 E. Fifth St., Waynesboro, Pa.

For more details circle **NED-736 E4** on enclosed inquiry slip

Open Type Retaining Rings

Industrial Retaining Ring Co.—Applications and advantages of stacked open type retaining rings are shown in 4-page illustrated brochure. Sketches show how they eliminate waste motion, nonproductive time and ring loss.

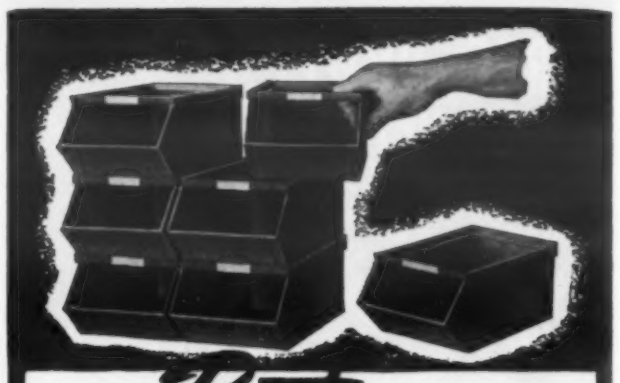
For more details circle **NED-737 E4** on enclosed inquiry slip

Actually a handy, 48-page manual for your desk or file. Describes and diagrams Titeflex® Seamed and Uniflex Seamless Metal Hose, standard and special fittings, couplings, typical assemblies—with tabulated specifications for easy ordering. Engineering data include working pressures, flow rates, frictional losses, how to install and care for flexible metal hose. Send coupon for your copy. No obligation.

Titeflex

TITEFLEX, INC.
507 Frelinghuysen Avenue, Newark 5, N. J.
Please send me your new Titeflex Flexible Metal Hose Catalog No. 200.
Name _____
Title _____
Company _____
Address _____
City _____ Zone _____ State _____

For more details circle **NED-738 E4** on enclosed inquiry slip



Parts...

★ **Where You Want Them . . .**
★ **When You Want Them**

You'll save time, space and labor handling parts and material when you use these patented STACKBINS.® STACKBINS keep parts instantly accessible—eliminate waste hand motions—stack compactly to form units of exactly the right shape and capacity—make order filling or assembly work faster, easier, more efficient. Heavy steel, all-welded construction. Sizes from 3½" x 6" x 3¼" to 15" x 24" x 11".

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1081 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

For more details circle **NED-739 E4** on enclosed inquiry slip

REDUCE POWER BILLS!
CUT WIRING, TRANSFORMER AND SWITCHGEAR COSTS *in new installations*
AVOID REWIRING

with
SPRAGUE
"ON-THE-SPOT"
Power Factor
CAPACITORS

Sprague power factor correction capacitors can save you real money in installations, large or small! They are easily connected, reduce line amperage and thus go far toward reducing costs. Your circuits will handle considerably more load if Sprague Capacitors are installed at your motor terminals—and no separate fused switches are required!

Get this Guide!

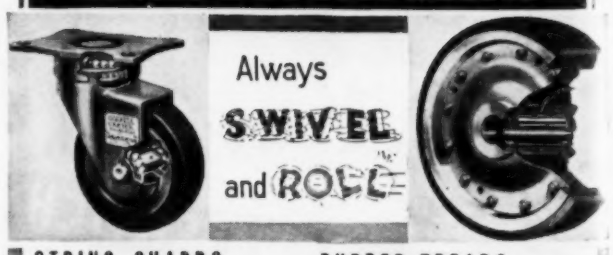
28 pages replete with PFC money-saving suggestions and installation data. Ask for guide 508

SPRAGUE ELECTRIC COMPANY
183 Marshall St. **North Adams, Mass.**

For more details circle **NED-740 E4** on enclosed inquiry slip

Built for the Job

DARNELL
CASTERS & E-Z ROLL WHEELS



STRING GUARDS...
Even though string and ravelings may wind around the hub, these string guards insure easy rolling at all times.

RUST-PROOFED...
by the Udylite process, Darnell Casters give longer, care-free life wherever water, steam and corroding chemicals are freely used.

RUBBER TREADS...
a wide choice of treads suited to all types of floors, including Darnelloprene oil, water and chemical-resistant treads, make Darnell Casters and Wheels highly adapted to rough usage.

LUBRICATION...
all swivel and wheel bearings are factory packed with a high quality grease. Zerk fittings are provided for easy lubrication.

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

For more details circle **NED-741 E4** on enclosed inquiry slip

ALLEN

PRESSURE TYPE ICE WATER COOLERS

- LOW INITIAL COST
- LOW OPERATING EXPENSE

ALLEN COOLERS WILL SERVE MORE EMPLOYEES PER COOLER THAN OTHER TYPES OF WATER COOLERS.

NO MOVING PARTS, NO SERVICE REQUIRED. RUGGED CONSTRUCTION FOR YEARS OF TROUBLE-FREE SERVICE IN PLANTS OR OFFICES.

FINISHED IN BROWN OR GRAY BAKED SYNTHETIC ENAMEL.

YOU CAN BUY DIRECT FROM THE ALLEN FILTER COMPANY.

100 LB. ICE CAPACITY $73.70
50 LB. ICE CAPACITY $63.80

THE ALLEN FILTER CO.
25 South St. Clair Street, Toledo 4, Ohio
60 years of service to manufacturing industries

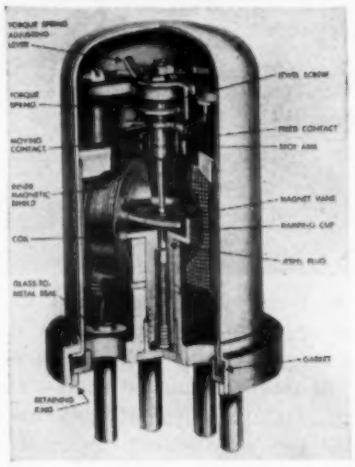
▲ For more details circle NED-742 E4 on enclosed inquiry slip ▲

ROOFING FASTENERS
easily installed from top side

Maintenance and installation of corrugated metal and asbestos roofing is simplified by use of Topseal and Holegrip fasteners, installed from the top side of the roof. After a hole is drilled in the sheet and purlin, a Topseal self-tapping screw is run into place. On side laps, a ½-in. hole is drilled through the sheets, and a Holegrip toggle type fastener is run into position with a nut runner. Holes from bolts being replaced or pin point leaks can be sealed with a Topseal plug seal. Fasteners and plug are equipped with Weath-R-Seal metal backed Neoprene washer. Stainless steel, aluminum or galvanized fasteners and application tools are made by **Fabricated Products Co.,** Dept. N, Water St., West Newton, Pa.

▲ For more details circle NED-745 E4 on enclosed inquiry slip ▲

SENSITIVE RELAY
has low operating power level



Standard models of model 219 sensitive relay are designed to operate on input powers of 25 micro-watts. Special models operate on power as low as 1 micro-watt. Thus they will operate directly from photocell and thermocouple outputs and can be used in plate and grid circuits. The instrument type construction uses meter movement and platinum-iridium contacts. Polarized operation adapts relay for use as a null detector in a bridge circuit and as a sensing element in a contactor servo circuit. Solder hook, printed circuit and plug-in bases are optional. Made by **Thomas A. Edison, Inc.,** Instrument Div., West Orange, N. J.

▲ For more details circle NED-746 E4 on enclosed inquiry slip ▲

Servomechanism Design

Cook Electric Co., Cook Research Laboratories Div. —"Design Considerations of a Saturating Servomechanism" presents technical design considerations of a saturating servomechanism whereby the servo designer can include saturating characteristics of the control motor and load in the original synthesis.

▲ For more details circle NED-747 E4 on enclosed inquiry slip ▲

Cut Polishing Time Improve Surface Quality

with "LINDE" FINE ALUMINA POWDERS

Obtain superior finishes, free from microscopic pits and scratches in a fraction of the usual polishing time. Use less abrasive and use it directly without levigation and other wasteful preparatory steps. They can also be compounded with waxes and used in stick form.

LINDE Fine Alumina Powders are characterized by ultra-fine, uniform particle size, high purity, and swift polishing action. They have gained wide-spread acceptance in polishing materials ranging from metallographic specimens to gemstones and noble metals.

Call or write any LINDE office and we will be glad to discuss your particular polishing applications.

	Type A	Type B
Chemical Composition	Alpha Al_2O_3	Gamma Al_2O_3
Particle Size (approximate)	0.3 Microns	Less than 0.1 Microns
Hardness (Moh's) (Equivalent to crystalline material)	9	8
Crystalline Structure	Hexagonal	Cubic

The term "Linde" is a trade-mark of Union Carbide and Carbon Corporation.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street, New York 17, N. Y. UCC Offices in Other Principal Cities

▲ For more details circle NED-749 E4 on enclosed inquiry slip ▲

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A revolutionary development in industrial gearing! Foote Bros. applies its aircraft quality gear manufacturing experience to its industrial gear production...to give you greater capacity and longer life in less space!

FOOTE BROS. Duti-Rated LIFETIME GEARING

Want to learn how these better gears will work in your product? Write today for complete details!

FOOTE BROS. GEAR AND MACHINE CORPORATION
4545 S. Western Boulevard, Dept. NE, Chicago 9, Illinois

FOOTE BROS.
Better Power Transmission Through Better Gears

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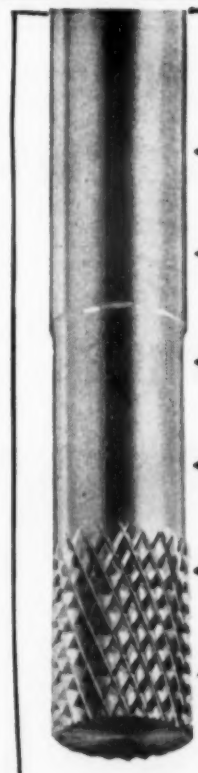

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Superior grade of carbide assures longer tool life

Master-machined for greater concentricity, precision work

Operates efficiently at grinding wheel speeds

No down time for dressing — maintains size and shape

Most efficient tool for small hole finishing

Save 75% of internal grinding time with

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SOLID CARBIDE *Grinding Burs*

Yes, in only one-fourth the production time required by use of mounted points, FORD solid carbide grinding burs will remove material hardened up to 68 RC. Save down time, tool cost. Ford carbide burs can be resharpened many times and still retain new-tool accuracy. Let us prove it. Write today.

FORD -- *the complete line!*

HSS ground cutters, rotary files and countersinks. CARBIDE cutters, end mills and grinding burs.

Get complete details plus operational data on over 300 Ford rotary tools in new Catalogue No. 207.

FORD regrinding service adds tool life, reduces tool costs!

M. A. FORD MFG. CO., INC.
Pioneers in rotary tools for more than 30 years

721 West River St., Davenport, Iowa

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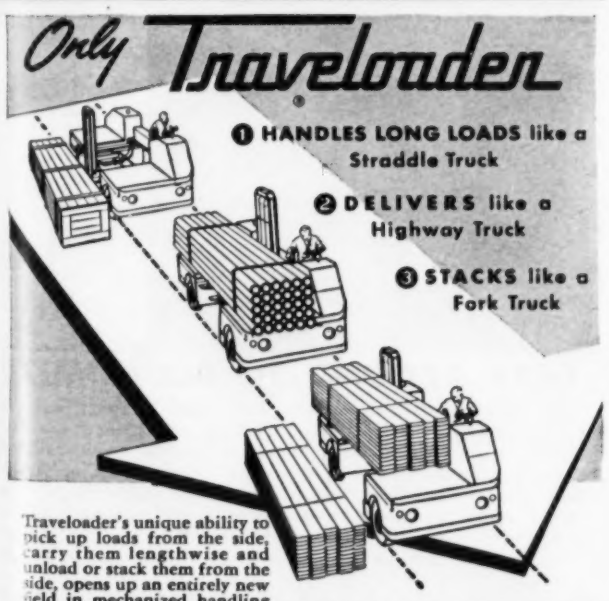
Only Traveloader®



1 HANDLES LONG LOADS like a Straddle Truck

2 DELIVERS like a Highway Truck

3 STACKS like a Fork Truck

Traveloader's unique ability to pick up loads from the side, carry them lengthwise and unload or stack them from the side, opens up an entirely new field in mechanized handling of long, unwieldy or bulky loads. Thus this one machine, operated by one man, often replaces two or three handling units now used on such jobs. The cost savings are obvious.

It offers many other advantages. Weight is distributed equally over four wheels, permitting heavy load handling on floors or ground conditions not practical for other devices. It can stack up to 12 ft. from 10 ft. aisles. It can handle palletized or unpalletized loads with forks, or loads in a sling with a crane attachment. It delivers loads at speeds up to 30 MPH.

Write for descriptive bulletin 1360.

Baker Industrial trucks

THE BAKER-RAULANG COMPANY
1245 W. 80th STREET • CLEVELAND 2, OHIO
BAKER-LULL Corp., *Subsidiary*, Minneapolis, Minn.
Material Handling and Construction Equipment

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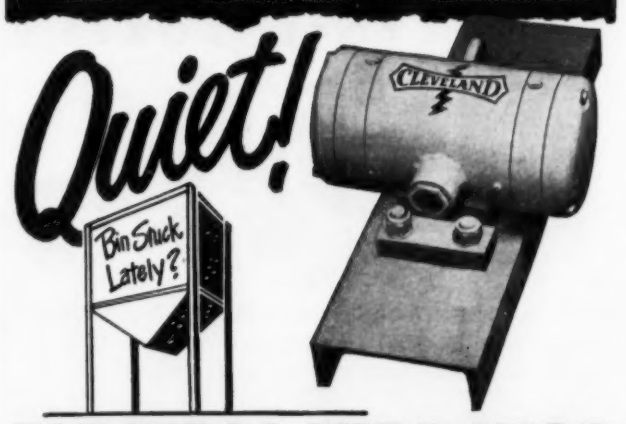
NEW COMPACT POWERFUL

Quiet!



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To speed the flow of stubborn material from hoppers, bins and chutes of all sizes and shapes.

Obtainable in all voltage, phase and cycle requirements.

Write today for complete literature.

THE CLEVELAND VIBRATOR CO.
2744 Clinton Avenue • Cleveland 13, Ohio

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The Cincinnati

HOLLOW SPINDLE

SPEED LATHE

A Name Among Names that Stands for Fast, Versatile, Flexible Burring and Finishing

Regardless of what you call it — Burr Head, Reamer Driver, Burring and Reaming Machine, or Speed Lathe — the results to small parts producers is the same; satisfactory results in the form of better finishing. Hollow spindle construction means it's especially adaptable to tubing and bar stock, in a wide range of sizes. Why rob production time from make-shift, adapted machines designed and needed for other operations? The Cincinnati Speed Lathe offers a range of types, voltages, speeds and capacities. It's available for pedestal installation, too.

Quality Equipment Since 1902

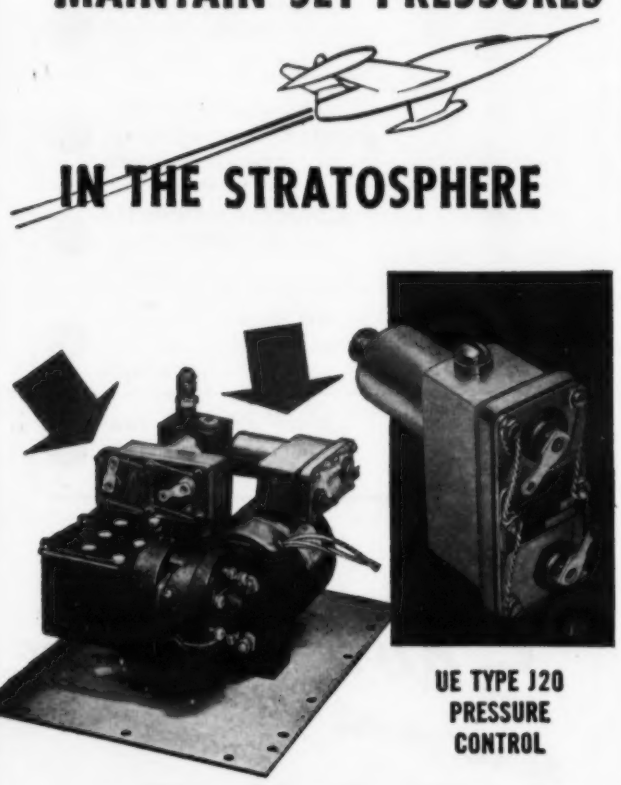
Profit from the complete story. Write for Catalog 54 VD

TRADE The Cincinnati MARK

THE CINCINNATI ELECTRICAL TOOL CO.
Division of THE R. K. LeBLOND MACHINE TOOL CO.
CINCINNATI 8, OHIO

For more details circle NED-751 E4 on enclosed inquiry slip

UE PRESSURE CONTROLS MAINTAIN SET PRESSURES



IN THE STRATOSPHERE

UE TYPE J20 PRESSURE CONTROL

The electronic equipment in today's high-flying aircraft requires uniform pressure conditions at predetermined levels in order to function accurately. At current operating altitudes, this pressure is supplied by pressurization units made by Eastern Industries, Inc. — and maintained by *UE* Type J20 controls.

The pressurization unit maintains a constant pressure at all times, between predetermined settings, thus assuring reliable performance of the plane's electronic equipment. The *UE* Type J20 Pressure Control automatically cuts the pressurization unit's motor in and out at those predetermined settings — thus assuring optimum electronic performance.

UE Type J20 — now offered commercially for the first time — is also being used in pressurized coaxial cables, R. C. A. ground radar, and in maintaining frequency bands.

United Electric manufactures a wide line of standard controls that are used in aircraft fuel purging systems, paper mill machinery, diesel engines, milk pasteurizers, room air conditioners and in countless other applications.

Special controls can be adapted from standard models, or can be custom built by United engineers working in cooperation with your own product development engineers.

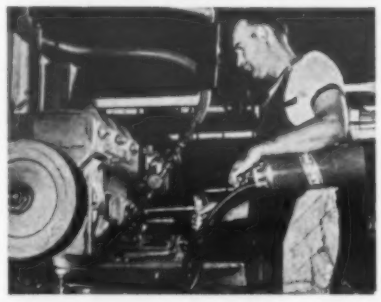
Write today for information on the complete line of United Electric Controls.

Standard and special thermostats and pressure switches

UNITED ELECTRIC CONTROLS CO.
81 School Street, Watertown, Mass.

For more details circle NED-752 E4 on enclosed inquiry slip

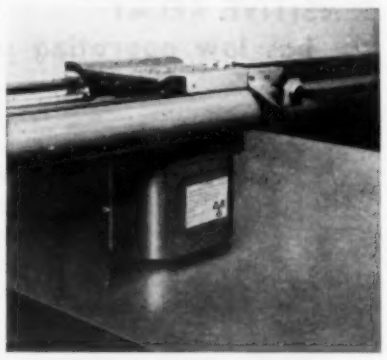
PORTABLE LUBRICATOR
hand pump supplies air pressure



Aro-Pak air-primed portable lubricator makes it possible to lubricate fittings in hard-to-get-at locations with one-hand operation, even in extreme cold. Unit consists of a cylindrical tank holding 5 lb of grease, carrying strap, hose and control nozzle. A hand pump primes the unit with air pressure powerful enough to open any fitting. Other features include visual grease level indicator, volume control nozzle, pressure booster and swiveling hose. Companion Aro-Fil gun filler makes possible quick filling of the Aro-Pak or any hand gun and receives any 25 or 40-lb original container. Made by **Aro Equipment Corp.**, Erie St., Bryan, O.

For more details circle NED-753 E4 on enclosed inquiry slip

NONCONTACTING GAGE
measures coating or sheet thickness



Accurate readings of thickness of plating or paint coatings or of sheet film, paper or other material which can be passed over a roll can be taken by model RBM Accu-Ray beta gage. Measuring head meters amount of reflected radiation from material under test and expresses results in terms of weight per unit area or thickness. Detector housing traverses width of sheet on precision ground steel tubes and can be used with sheets up to 160-in. wide. Gage automatically and periodically compensates for error-producing variables such as changing ambient conditions, circuit variations and weakening source of radiation. Optional equipment includes a computer for totaling combined weights when gages are used to measure coatings on both sides of a sheet. Made by **Industrial Nucleonics Corp.**, Dept. 11, 1205 Chesapeake Ave., Columbus 12, O.

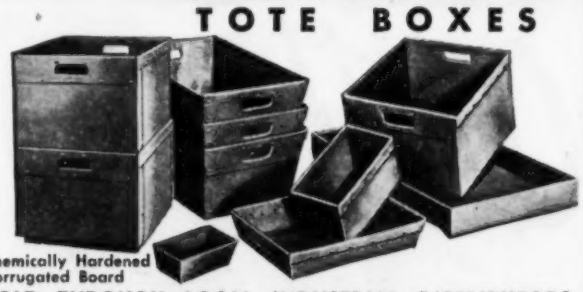
For more details circle NED-754 E4 on enclosed inquiry slip

Shock-Absorbing Packaging

Armour & Co., Curled Hair Div.—Hairflex shock-absorbing packaging material described in 4-page illustrated catalog is produced by permanently bonding curled animal hairs with latex rubber. Vulcanized product is available in many sizes, shapes.

For more details circle NED-755 E4 on enclosed inquiry slip

FAMOUS "CHEM-BOARD"* CONVOY TOTE BOXES



*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.

CONVOY RECORD STORAGE FILES
Sold Only by YOUR LOCAL STATIONER

Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

CONVOY, INC.
Canton 6, Ohio
P. O. Station B, Box 216-N

For more details circle NED-756 E4 on enclosed inquiry slip

specify

CAL-WIC MESH CLOTH

You'll find CAL-WIC Mesh Cloth available in a wide variety of weaves, weights and meshes... fabricated in various types of metals and alloys for resistance to corrosion, abrasion, or high temperatures.

For original equipment or replacement, investigate the advantage of "precision-made" CAL-WIC Mesh Cloth. Write for further information.

THE COLORADO FUEL AND IRON CORPORATION — Denver and Oakland
WICKWIRE SPENCER STEEL DIVISION — Atlanta • Boston • Buffalo
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CAL-WIC INDUSTRIAL SCREENS (CFI)
THE COLORADO FUEL AND IRON CORPORATION

For more details circle NED-757 E4 on enclosed inquiry slip

drills 6 inches of concrete per minute

...gives lowest cost per foot of concrete drilled with a

tilden

ROTARY KONKRETE KORE DRILL

Patented core slot expels cuttings automatically

U.S. Pat. No. Re. 23539

Drill straight, clean, ready-to-use holes at speeds up to 6 inches per minute — even through steel reinforced concrete. TILDEN Rotary Koncrete Kore Drills can be used with ordinary electric or rotary air drill. Free Factory sharpening and repair service still available on all Standard TILDEN Drills from 3/16" to 8-inch diameters. Interchangeable shanks for any depth hole.

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Branch: 7111 North Glenwood, Chicago 26, Illinois

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GETS AROUND TO ECONOMIZE

'Tugit' goes where the work is. It is light, compact, easy to handle and use in tight spots. Lifting and pulling are fast at any angle. Maintenance men, construction crews, railroad workers, linemen — all save time and money wherever 'Tugit' goes into action. Operation is smooth and safe. 'Tugit' is a powerful lever operated spur-geared hoist with automatic brake, super-tough chain, non-fracturing hooks and non-kicking handle. One-ton loads can be spotted with an accuracy of 3/32" at a time.

The versatility and economy of a 'Tugit' Hoist has been proved on thousands of jobs everywhere. Available in one and two-ton capacities — either size fits any tool box. Let your "Shaw-Box" Distributor give you full details or write us for Bulletin 388.

'TUGIT'® HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' and 'American-Microsen' Industrial Instruments, and Aircraft Products.

For more details circle NED-759 E4 on enclosed inquiry slip

Safeguards plant and personnel while **speeding up** *materials handling!*

trouble-free . . . 335° swivel
APPLETON REELITE
Traveling Power Supply

A Size and Model for every job!

• The new "YS" Reelites are quality products throughout . . . built for long uninterrupted service. They are one of many trouble-free APPLETON Reelites available to industry to supply traveling power on any job regardless of size.

For better materials handling in *your* plant, find out about APPLETON Reelites. Write for Bulletin 504, *today!*

Also Manufacturers of:

Sold Through Electrical Wholesalers

APPLETON ELECTRIC COMPANY
1758 Wellington Ave., Chicago 13, Ill.

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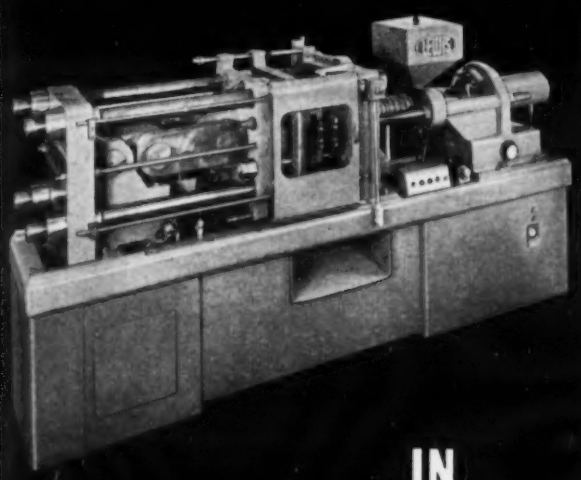
THE NEW LEWIS "6" TODAY'S BEST BUY



IN PLASTICS INJECTION MOLDING MACHINES

The LEWIS "6" features high speed operation . . . maximum economy . . . greater capacity . . . positive safety. Designed for production molding of large projected area parts . . . this compact machine carries the work load of a considerably larger unit at a fraction of initial and normal operating costs.

Featuring the exclusive new "HYDRA-LOCK" clamp, the LEWIS "6" has the safest, most powerful hydraulic mold clamping device available today. "HYDRA-LOCK" develops a 200-ton clamping pressure in tenths of a second. In addition, this machine plasticizes up to 60 pounds per hour, and 7-ounce shots of polystyrene can be molded at the rate of 2-1/2 per minute.

For maximum efficiency and safety coupled with minimum maintenance . . . your best buy is a LEWIS "6" injection molding machine.

1897-LW

LEWIS

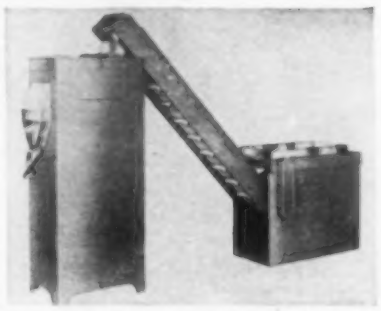
Write for Bulletin 102 for complete details

THE LEWIS WELDING & ENGINEERING CORPORATION

14 INTERSTATE STREET • BEDFORD, OHIO

▲ For more details circle **NED-761 E4** on enclosed inquiry slip ▲

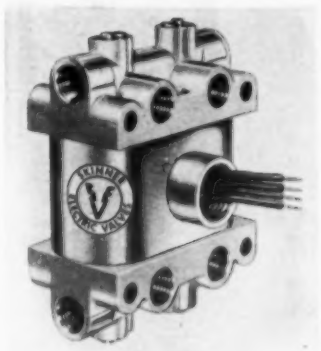
NET WEIGHING MACHINES for packaging any small produce



Available in floor, bench and elevator combination models, Whiz-Packer net weighing machines are designed to package potato chips, hardware and other small products. They handle weight ranges from less than 1 oz to 3 lb and in a weighing ratio of 1:12, depending on specific gravity and nature of product. Rapid weight adjustments can be made, and machines operate at speeds up to 30 per minute with single head unit. Spouts and hoppers are available suited to the product and containers, and screening trays for removing objectionable particles can be incorporated. Elevator combination illustrated can be furnished with various feeding bins and can be used with take-away conveyors. Made by **Frazier & Son,** 20A Industrial West, Allwood, Clifton, N. J.

▲ For more details circle **NED-762 E4** on enclosed inquiry slip ▲

SOLENOID VALVES small four-way type units



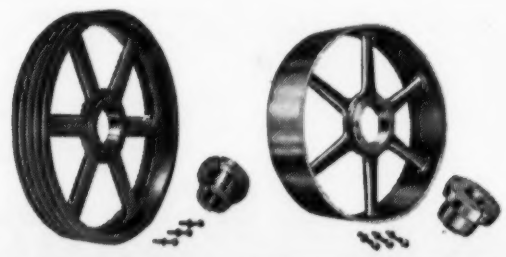
Normally open, normally closed or combination normally open and normally closed types are offered in the V9 series of four-way solenoid valves. Small units, only 4 5/16-in. high, are leak-proof, suitable for air, hydraulic oils and other common media, and will operate in any position. There are 176 standard variations of capacities, metering and types available. Packless units have die cast zinc bodies, stainless steel integral parts and varnish impregnated NEMA class coils. Pressures range from 0 to 150 psi and orifice diameters from 3/64 to 1/8-in. They are available for all common alternating and direct current voltages. Made by **Skinner Chuck Co.,** Skinner Electric Valve Div., 112 Edgewood Ave., New Britain, Conn.

▲ For more details circle **NED-763 E4** on enclosed inquiry slip ▲

Industrial Radiography

E. I. du Pont de Nemours & Co., Photo Products Dept. — "Du Pont Products for Industrial Radiography" is title of 28-page illustrated booklet which contains guides for x-raying such metals as steel, magnesium, and aluminum. Exposure and processing data are given for industrial purpose films.

▲ For more details circle **NED-764 E4** on enclosed inquiry slip ▲



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We have modern and adequate equipment to supply promptly any sheave or pulley requirements you may have . . . whether they be of solid construction or completely split. No matter what outside diameter, pitch diameter, face width or number of grooves you want, we probably have it in stock, but if not, we'll make it for you promptly. Contact your nearest Wood's Industrial Distributor or write us for specific information.

Wood's sheaves and pulleys can be ordered with our famous "Sure-Grip" interchangeable bushings for quicker mounting and easier removal.

T. B. Wood's SONS COMPANY
CHAMBERSBURG, PA.
Mechanical Power Transmission Manufacturers—Since 1857.

CAMBRIDGE, MASS. • NEWARK, N. J. • DALLAS, TEXAS • CLEVELAND, O.

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KINNEAR Rolling Doors

Every square inch of door opening remains fully usable. Traffic flows through freely and efficiently, with these interlocking steel-slat doors coiled compactly over the lintel. Ask about the many other advantages.

Catalog on request.

The KINNEAR Manufacturing Company

Saving Ways in Doorways KINNEAR ROLLING DOORS

Factories: 3017 Fields Ave., Columbus 16, Ohio; 1742 Yosemite Ave., San Francisco 24, California

Offices and Agents in Principal Cities

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Have You a temperature control problem?

STANDARD KLIXON THERMO-SNAP® CONTROLS will meet your requirements ... usually at lower cost!

Because Klixon Snap-Acting Temperature Controls are simple and foolproof with *no* complicated operating mechanism, they *always* provide accurate control in every application.

Small, light-weight, compact, they fit into products without complicated design alterations. They operate surely and dependably even under shock, vibration motion or altitude no matter what positions they are mounted. And because you can usually find a standard Klixon Thermo-Snap Control to do the job properly, you save money by eliminating new thermostat design and manufacturing costs.

What's your temperature control problem . . . low and high limit controls, fuel delay switches, tube and rectifier cooling, fan switches, temperature control . . . Klixon Thermo-Snap Controls are meeting the requirements for these and other applications in military and civilian products, daily.

Klixon Thermo-Snap Controls are available in many hermetically sealed and open types in a wide variety of operating temperature ranges.

METALS & CONTROLS CORPORATION
SPENCER THERMOSTAT DIVISION
1905 FOREST STREET, ATTLEBORO, MASS.

KLIXON

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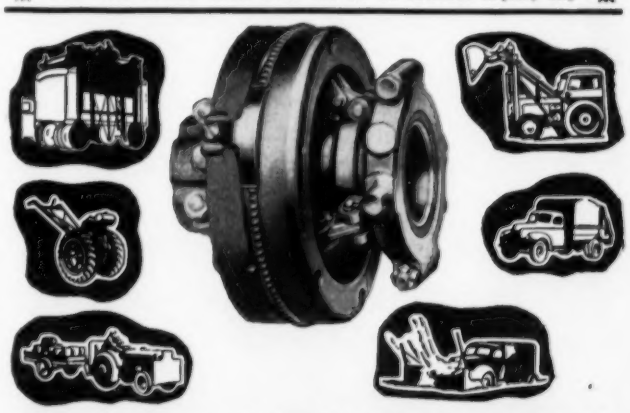

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Send for This Handy Bulletin

Shows typical installations of ROCKFORD CLUTCHES and POWER-TAKE-OFFS. Contains diagrams of unique applications. Furnishes capacity tables, dimensions and complete specifications.

ROCKFORD CLUTCH DIVISION BORG-WARNER
▲ 319 Catherine Street, Rockford, Illinois, U.S.A. ▲

ROCKFORD CLUTCHES

▲ For more details circle **NED-768 E4** on enclosed inquiry slip ▲

Just $1.53 a day puts this Automatic truck to work in your plant!

NEW "EARN-ITS-OWN-WAY" Plan streamlines materials handling without 1¢ capital investment

Compact, operator-led electric truck for horizontal movement of all kinds...up to 10,000 lbs. capacities.

Now, *all* Automatic trucks can be leased, complete with battery and charger, as easily as a place of business, immediately start earning their own way, PLUS a profit for you!

The unbelievably low rental cost for a Transporter, for instance, is just $1.53 a day over the 5 year lease (based on 60 months, 25 operating days per month) and only *14¢ a day* after it expires! Rates for heavier-duty lift trucks are proportionately low.

Or—if you prefer to *own* an Automatic truck—a modest down payment delivers the equipment, with 6 to 36 months to pay off the balance!

This flexible plan, provides liberal options for purchase or renewal so that you can have a plan "tailored" to your special needs.

Plans available in U.S.A. only.

Automatic

61 West 87th St., Dept. E-4
Chicago 20, Illinois

World's Largest Exclusive Builder of Electric-Driven Industrial Trucks

For more details circle NED-765 E4 on enclosed inquiry slip

- with 8 TEST RANGES
- DIRECT DIAL READINGS

Designed to determine both the initial and basic stiffness of sheet and wire specimens, this improved ultra-sensitive model has *eight* test ranges instead of six. Now, the flexural rigidity of very thin materials such as cellophane and metal foil can also be determined with the SR150-14 attachment which magnifies dial readings 100 times. Test length, angle of deflection and rate of loading are all standardized for accurate test results between laboratories. Readings taken direct from dial. No calculations necessary! Send coupon for folder giving details and prices!

ABRASION RESISTANCE TESTER

Simulates ACTUAL abrasion and wear conditions during test and gives ACCURATE numerical index for your report. Recognized the world over as the STANDARD for testing plastics, rubber, textiles, paint and linoleum. Send coupon below for free booklet!

MAIL COUPON FOR FREE LITERATURE

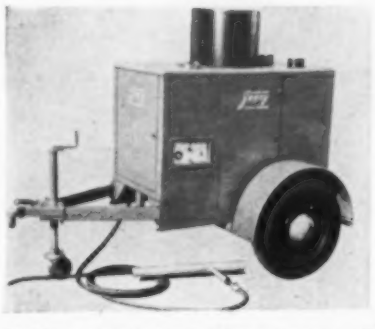
Taber INSTRUMENT CORPORATION SECTION 16
111 Goundry St., North Tonawanda, N. Y.

☐ Please send me booklet on Taber Stiffness Tester
☐ Please send me booklet on Taber Abraser

NAME .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

For more details circle NED-770 E4 on enclosed inquiry slip

STEAM CLEANER
supplies up to four cleaning guns



Available in trailer-mounted, shop portable or stationary units, series 3000 Hypressure Jenny steam cleaners have a single heating coil with oil-fired burner and generate sufficient steam to supply up to four guns. Either electric motor or gasoline engine drive are available. Automatic electric ignition starts the unit, which will deliver at rate of 300 gph within 3 minutes from a cold start, or 100 gph if unit is to be used for heat transfer purposes. Cleaner has 26-gal capacity fuel and solution tanks provided with metered lines controllable by the operator. Made by **Homestead Valve Mfg. Co.**, P. O. Box 84, Coraopolis, Pa.

For more details circle NED-771 E4 on enclosed inquiry slip

TIME SWITCHES
portable plug-in type

Room air conditioners rated at ⅓, ½, ¾ or 1 hp can be automatically controlled by Inter-Matic series P690 portable plug-in time switches. They are equipped with a 4-ft type S cord with molded rubber grounded plug. Model P691 is for 125-v operation and has a plug for use on either a two or three - wire electrical system. Model P692 is for 250-v, three-wire systems. A "skipping" device is incorporated which permits bypassing the automatic operation of the switch on weekends and other selected days. Up to 11 on-off operations per day and a time range of 1 to 23 hours are provided. Unit can be set to turn conditioner on before start of working day and off at end of day. Made by **International Register Co.**, 2624 W. Washington Blvd., Chicago 12, Ill.

For more details circle NED-772 E4 on enclosed inquiry slip

Stretch-Forming Methods

Cyril Bath Co.—First of a series of bulletins on Stretch-forming compares the method with other forming methods. Manufacture of the particular part used as an example eliminates several press brake, cutting and welding operations. Photos show exactly how the part is made.

For more details circle NED-773 E4 on enclosed inquiry slip

***Faster*... *Quieter*...** wide speed range, 3 sizes.
300 lb.—lift rate 75 ft. per min.
500 lb.—60 ft. per min.
1000 lb.—40 ft. per min.

***Smaller*...** one man can easily install.

***Safer*...** no spark hazard... betters all safety requirements.

***More Useful*...** for shipping docks... refineries, chemical plants, heat treating, plating.. machine shops, foundries... appliance, furniture, textile, automobile and aircraft assembly... stock rooms.

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Toronto, Ont.

ARO AIR HOIST

Also... Air Tools... Lubricating Equipment... Aircraft Products... Grease Fittings

For more details circle NED-774 E4 on enclosed inquiry slip

FAST NEW POLISHING TOOL
Expanding slotted rubber wheel uses inexpensive abrasive belts, sleeves

Low-cost polishing and finishing with abrasive belts, sleeves and bands by CARBORUNDUM is now possible... using a newly-developed Expanding Slotted Rubber Wheel which holds the abrasive element in place by centrifugal force alone. Slots in the resilient rubber face allow expansion of the wheel head at the recommended operating speeds, and the force of the expansion is sufficient to hold the belt, sleeve or band firmly while grinding. On many operations, this new wheel can replace set-up wheels... completely eliminating the long and costly preparation of the latter. Another advantage of the Expanding Wheel is the ease with which you can reverse the abrasive element whenever polishing or finishing must be done with one side of the wheel. Stopping the wheel loosens the abrasive... no mechanical device is used. Starting the wheel tightens it in place. Every bit of the abrasive can be used. There is no tendency for the sleeve, belt or band to "walk" sideways on the wheel as long as recommended wheel speeds are followed. Expanding Slotted Rubber Wheels are available in diameters from 1" through 8", in various widths up to 8" (widths normally do not exceed diameters). Write for complete information to **The Carborundum Company**, Dept. NED 82-410, Niagara Falls, New York. Or use the inquiry form provided by this publication.

"Carborundum" is a registered trademark of The Carborundum Company, Niagara Falls, New York

82-410

For more details circle NED-775 E4 on enclosed inquiry slip

with SPO air vibrators

Bins, hoppers, chutes equipped with SPO will always flow! There is no clogging or packing of powdered or granular materials.

While low in cost, SPO air vibrators are built for continuous hard use and incorporate a special corrosionproof cylinder liner. Types and sizes are available to meet every vibration need.

SERIES 81

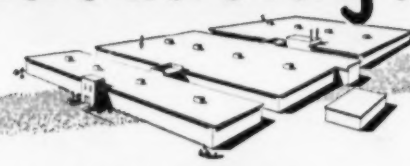
1902-81

Write for Bulletin 50 for complete details.

SPO INCORPORATED
6475 GRAND DIVISION AVENUE • CLEVELAND 25, OHIO

For more details circle NED-776 E4 on enclosed inquiry slip

Announcing...



A NEW PLANT
A modern building designed specifically for relay manufacture is another step in the continuing effort to improve Struthers-Dunn services and maintain maximum production of high quality products at favorable prices.

A NEW LOCATION
The entire Struthers-Dunn factory and headquarter offices have been moved to a new location, 15 miles Southeast of the Philadelphia-Camden Area.

NEW ADDRESS
LAMB'S ROAD • PITMAN, N. J.

NEW TELEPHONE
PITMAN 3-7500

S-D STRUTHERS DUNN INC.

STRUTHERS-DUNN
5,348 RELAY TYPES

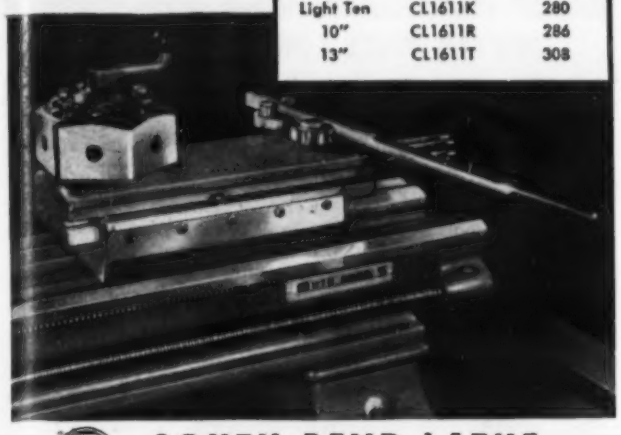
For more details circle NED-777 E4 on enclosed inquiry slip

SOUTH BEND
HANDLEVER BED TURRET

Use this practical attachment and efficiently handle repetitive operations on your engine lathes. Quality-built and extremely accurate — indexes automatically (±.0005" at 4" from turret face). Hardened, ground and superfinished index pin. Automatic feed stops. Effective slide travel 4". Holes for ⅝" or ¾" shank tools.

This is just one of 165 attachments and tools designed for South Bend Lathes. *Write for Attachment Bulletin 5321.*

Size Lathe	Catalog Number	Factory Price
9"	CL1611N	$273
Light Ten	CL1611K	280
10"	CL1611R	286
13"	CL1611T	308



SOUTH BEND LATHE
SOUTH BEND 22, INDIANA
Building Better Tools Since 1906

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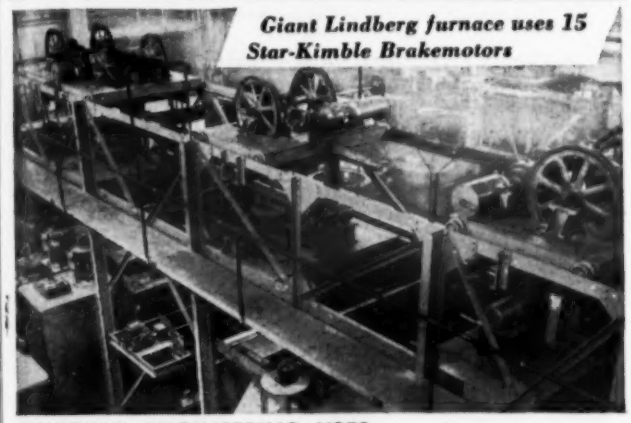


Giant Lindberg furnace uses 15 Star-Kimble Brakemotors

LINDBERG ENGINEERING USES
Star-Kimble Brakemotors because . . .

1. *Installation costs are lower.* Motor and brake a single unit — no alignment problems.
2. *Maintenance costs are lower.* Brake wear very low.
3. *Work positioning remains accurate.* Brakemotor stops maintain their precision.

Lindberg uses Star-Kimble Brakemotors *exclusively* wherever brakes are needed in furnace operation. For information, write for Bulletin B-501-A.

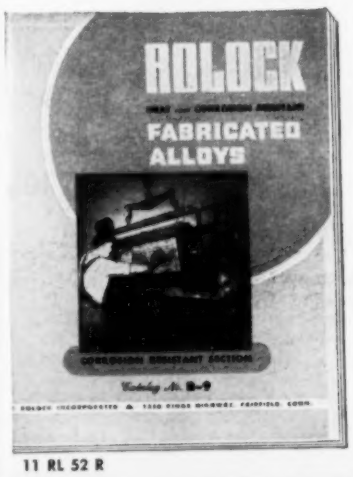
Standard and special motors of all types, 1 to 125 hp; generators and motor-generator sets, 1 to 100 kw.; Marine motors, ½ to 125 hp.

Star-Kimble
MOTOR DIVISION
Miehle Printing Press & Mfg. Co.
214 Bloomfield Avenue, Bloomfield, New Jersey

▲ For more details circle NED-779 E4 on enclosed inquiry slip ▲

ROLOCK
FABRICATED ALLOYS
HEAT AND CORROSION RESISTANT

NEW and COMPLETE . . .



specialized reference on Pickling, Degreasing, Galvanizing and other processing operations. Baskets, Manual and Motor-powered Barrels . . . Trunnion, Centrifugal, Bottom-dumping Baskets, Shell Case containers.

• • •

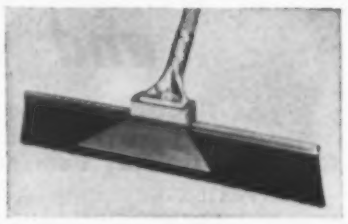
Send for this No. B-9 Corrosion Resistant Section of Rolock's catalog . . . just off the press. It's full of valuable ideas.

11 RL 52 R

ROLOCK, INC.
1412 KINGS HIGHWAY, FAIRFIELD, CONN.

▲ For more details circle NED-780 E4 on enclosed inquiry slip ▲

LIGHTWEIGHT PUSH BROOM
four positions provided for brush



Multiposition head clamp allows setting brush strip of the Blade Sweep push broom in four different positions for sweeping versatility. Broom is made of heat and acid resistant materials for industrial plant use. Optional metal scraper which fits on head clamp at right angles to brush facilitates removal of mud or grease deposits. Available brush or filler materials include synthetics, wire and bassine or tampico fibers. Softer fillers can be used for speedy painting of large floor surfaces. Brush strips from 18 to 36 in. long can be obtained as well as special lengths and types according to order. Made by **Fuller Brush Co.**, Industrial Div., Dept. NED, 3530 Main St., Hartford 2, Conn.

▲ For more details circle NED-781 E4 on enclosed inquiry slip ▲

TOOL GRINDER
wet or dry carbide type

Designed for wet or dry grinding carbide tools, model WD-6 grinder is of the twin 6-in. cup type where two operators can use the same machine at once, and one coarse and one fine wheel can be mounted. Safety disk prevents hands from being drawn into the wheels. Guards prevent coolant splashing, and self-contained pump and tank unit for coolant are fitted in machine base. Tables adjust in and out to compensate for wheel wear, and also tilt to any angle between 30 degrees above and 30 degrees below horizontal. Standard equipment includes combination protractor and diamond dresser and flexible light fixture. Made by **Hammond Machinery Builders, Inc.**, 1623 Douglas Ave., Kalamazoo 54F, Mich.

▲ For more details circle NED-782 E4 on enclosed inquiry slip ▲

Coolant Filters

Industrial Filtration Co.—Delpark coolant filters for use on Cincinnati precision grinding machines are covered in 4-page illustrated bulletin. By automatically removing waste abrasives and chips from the circulating coolant they promote accurate cutting and reduce wheel loading. One filter can be set up to serve more than one grinding machine, as shown in bulletin. Cincinnati equipment and corresponding Delpark filters are listed together.

▲ For more details circle NED-783 E4 on enclosed inquiry slip ▲

how to cut your costs with **upson** wood fiber panels and cut-outs

Send for FREE sample kit today. Discover how to cut costs, speed output with rugged, low cost Upson Wood Fiber parts and cut-outs.

You save because Upson will cut parts to fit your exact needs. And Upson's special equipment can apply low cost coatings for protection, color, waterproofing. Let Upson, as a specialist, combine operations and lower costs even more.

upson LAMINATED WOOD FIBER BOARD AND SPECIALTIES

Handsomely packaged kit with 11 samples of cost cutting Upson Wood Fiber Panels plus 8-page folder. Yours FREE. Mail coupon.

THE UPSON COMPANY 245 UPSON POINT, LOCKPORT, N.Y.
Please send me FREE sample kit.
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COMPANY_____
STREET_____
CITY_____ STATE_____

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For dependable control for most effective power . . .

match the right HANNA VALVE to the right HANNA CYLINDER

Send for
Valve Catalog No. 254
Hydraulic Cylinder Catalog No. 233A
and Low Pressure Cylinder Catalog No. 236

Hanna Engineering Works
1759 ELSTON AVENUE • CHICAGO 22, ILLINOIS
HYDRAULIC AND PNEUMATIC EQUIPMENT
CYLINDERS . . VALVES . . RIVETERS

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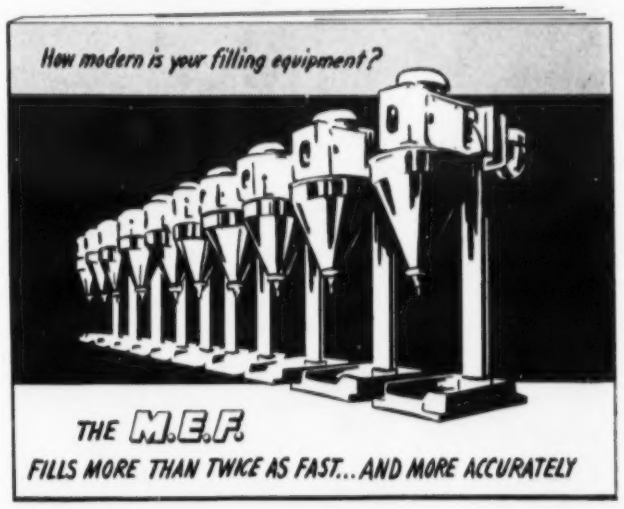
how modern is YOUR filling equipment?



WHY NOT FIND OUT?

Write today for this new, free brochure

Here's valuable reading for packaging and production executives interested in cutting filling costs and speeding up production. Shows typical applications handling liquids, pastes, abrasives, both free and non-free flowing powders, melted materials up to 500° F., and many others including aseptic and explosive. Pictures manual, semi-automatic, and automatic equipment with filling speeds *up to 240 a minute with 99.7% mechanical accuracy!* Yours for the asking — mail coupon today. No salesman will call.

—CLIP AND MAIL—

G. DIEHL MATEER CO., Dept. N 54
Lincoln Highway, Devon, Pa.

Please send me the brochure "HOW MODERN IS YOUR FILLING EQUIPMENT?"

NAME_____
COMPANY_____
ADDRESS_____

▲ For more details circle NED-786 E4 on enclosed inquiry slip ▲

You Can Cut MOTOR COMPONENT COSTS

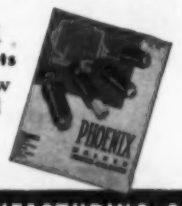
with **PHOENIX** *Brush Holders*

PHOENIX Molded or Assembled Motor Brush Holders are custom-designed to your exact specifications—yet delivered to you at mass production costs!

Secret is a wide range of stock tools which produce an infinite variety of uniform top-quality, close-tolerance brush holders.

Take a hint from the large number of manufacturers already saving on component costs with Phoenix . . . Get the full details now!

SEND FOR CATALOG 54 I
Shortcut to Lower Production Costs
New Phoenix Catalog shows how to order customized standard brush holders to fit your needs. Free on request.



PHOENIX ELECTRIC MANUFACTURING CO.
711 West Lake Street Chicago 6, Illinois

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Stack 'em HIGH at low cost...

HERE IT IS! A truck that stacks pallets just like conventional tiering trucks, yet costs much less. The RAYMOND Pallet Stacker was designed specifically for small plants and warehouses . . . is suitable for auxiliary use in large operations.

RAYMOND PALLET STACKER accommodates pallets 30" to 48" in width, tiers them up to 115" high. It actually right-angle stacks from aisles less than 6 ft. wide, has a maximum capacity of 2,000 lbs. Its ¾ HP motor-driven pump plugs into any 110 V socket, supplies power for raising loads quickly and easily. A hand lowering valve provides absolute control over the Pallet Stacker's speed of descent.

WRITE FOR CATALOG giving full details on the RAYMOND Pallet Stacker . . . and on other RAYMOND hydraulic elevating equipment. Fill in and mail the coupon today.

The RAYMOND CORPORATION
4135 Madison St., Greene, N.Y.

Please send me your new Hydraulic Equipment Catalog.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle NED-788 E4 on enclosed inquiry slip ▲

New Literature and Catalogs

Cooling & Heating Components

Harry Alter Co.—Catalog 161-1954 contains nearly 10,000 items with wholesale prices and mechanical details of the parts and supplies in the fields of refrigeration, heating, air conditioning and electric motors.

▲ For more details circle NED-789 E4 on enclosed inquiry slip ▲

Belt Sheaves

Browning Mfg. Co.—Pocket-size 24-page booklet 1986 highlights some of the features and advantages of Browning Gripbelt sheaves. Data relative to clamping force and pitch are given. They are available in 2, 3 and 4-groove B types; with 7 to 18.4 pitch diameters; and ½ to 1¾-in. bores using malleable split taper compression bushings.

▲ For more details circle NED-790 E4 on enclosed inquiry slip ▲

Metal Chain

Chain Belt Co.—User benefits to be derived from use of Rex Z-Metal chain are described in 12-page bulletin D-53. Chain made from heat-treated alloy is equal to better grades of steel in physical properties, resists corrosion and abrasion, and is harder than malleable iron.

▲ For more details circle NED-791 E4 on enclosed inquiry slip ▲

Vacuum Cleaning Systems

U. S. Hoffman Machinery Corp., Air Appliance Div.—The costly problem of industrial dust is analyzed in 12-page brochure A-939 which describes line of vacuum cleaning equipment designed to combat it. Basic working elements of stationary vacuum cleaning systems with central dust collection are detailed. Line of accessories, including tools, hose and new storage locker are also shown and explained.

▲ For more details circle NED-792 E4 on enclosed inquiry slip ▲

Tow Line Trucks

Nutting Truck & Caster Co.—Complete information on large variety of trucks adaptable for either underfloor or overhead conveyor tow-line systems is included in 8-page catalog 54-TL. In addition to platform type, catalog features two-wheel hand trucks which can be utilized in tow-line installations.

▲ For more details circle NED-793 E4 on enclosed inquiry slip ▲

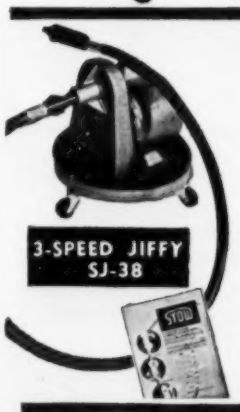
Remote Liquid Level Indicators

Yarnall-Waring Co.—20-page bulletin WG 1824 contains complete description of Yarway remote liquid level indicators for boilers, heaters, storage tanks and other vessels in power and industrial process plants. Application, installation, recommendations and wiring diagrams are presented.

▲ For more details circle NED-794 E4 on enclosed inquiry slip ▲

step up production with

STOW flexible shaft MACHINES



These dependable STOW FLEXIBLE SHAFT MACHINES save production time . . . speed up output . . . help lower production costs. Variable Speed Models shown are easily portable . . . cut down operator fatigue and increase on the job efficiency!

Constant Speed Models available. Also complete line of accessories designed to increase the utility of STOW Flexible Shaft Machines!

WRITE TODAY
for your free copy of CATALOG 51

STOW MANUFACTURING CO.
26 Shear St. Binghamton, N. Y.

▲ For more details circle NED-795 E4 on enclosed inquiry slip ▲

WOVEN WIRE CONVEYOR BELTS!

Automation—*continuous, automatic production*—is provided here by this Cambridge Woven Wire Conveyor Belt carrying optical glass through high temperature annealing.

Cambridge belts can help increase automation in your plant, too. They're all metal, and can be woven from any metal or alloy. Thus, they're impervious to damage from heat, cold or corrosive conditions. Open mesh allows free circulation or drainage of process atmosphere or solution. Available in varied specifications for varied loads, and with special attachments to hold bulk materials on the belt during flat or inclined movement.

Get the full story—FREE! Write today for your copy of technical manual of belt applications. Or call in your Cambridge Field Engineer. See "Belting-Mechanical" in your classified phone book, or write direct.

The Cambridge Wire Cloth Co.
WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS
Department C
Cambridge 5, Maryland

—OFFICES IN LEADING INDUSTRIAL AREAS—

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General-Purpose Heat-Treating

PERECO Electric Furnace

"FG" Series

Max. 2500° F.

This Model FG-110 is typical of the series

Pereco Lab and Shop Furnaces of the "FG" series are made in different work-load capacities. Each covers full range of heat-treating temperatures. Clean electric heat, accurately controlled, is provided by non-metallic elements. Gas-tight, heavy-gauge steel case has wedge-fit, heat-seal door. Atmosphere connections available. Operating controls easily accessible in separate panel. Write.

• STANDARD AND SPECIAL FURNACES FOR TEMPERATURES 450° to 5000° F.

PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd., Columbus 12, Ohio

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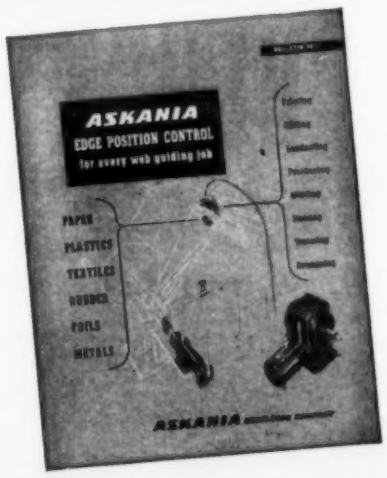


ASKANIA EDGE POSITION CONTROL for every web guiding job

This new 12-page book describes Askania Edge Position Control, the modern control for every web guiding job. Suitable for nearly every kind of material, from light scrim and fragile tissue to steel strip. Only a breath of air touches the controlled material—yet force and speed available for correction are practically unlimited. The system is simplicity itself—easy to install, easy to maintain.

Write for your copy of Bulletin 161.

ASKANIA REGULATOR COMPANY
258 E. Ontario Street Chicago 11, Illinois
Subsidiary of General Precision Equipment Corp.

▲ For more details circle NED-798 E4 on enclosed inquiry slip ▲

When it has to Run for Years and Years

WITHOUT FAILURE

MAKE IT A LEIMAN VACUUM AND PRESSURE PUMP

Leiman users say this:

"Almost continuous operation, 24 hours a day for 21 years"

"Using Leiman pumps on 350 machines. No pump has given a moment's trouble"

4-WING TYPE. Vacuums to 20"; pressures to 15 lbs.; displacement to 162 cfm. Wings take up their own wear, insure positive pressure or vacuum.

2-WING TYPE. Vacuums to 29.9"; pressures to 25 lbs.; displacement to 40.8 cfm. Automatic wing adjuster forces steel blades to meet cylinder wall, no sticking.

Write for 16-page catalog and blueprints of typical applications on Leiman rotary positive pumps—choice of industry since 1889.

SEE OUR CATALOG IN SWEETS FILE

LEIMAN BROS., INC.

167 Christie Street, Newark 5, N. J.

For more details circle NED-799 E4 on enclosed inquiry slip

SAFETY-PULL RATCHET LEVER HOISTS

10 roller-chain models — 1,500- to 30,000-lb. 2 coil-chain models — 1,500- and 3,000-lb.

CHALLENGER LIGHTWEIGHT ALL STEEL SPUR-GEAR HOISTS

3 models — ½-, 1-, and 2-ton

OTHER SPUR-GEAR HOISTS

22 models — ¼- to 25-ton

In hand hoists — It's Coffing

OVER 80 SIZES AND MODELS TO FILL ALL YOUR NEEDS

Mighty-Midget Pullers 2 sizes — 500- and 1,000-lb.

Hoist Binder 3,000-lb. capacity.

Safety Load Binders 2 models — 3,000- and 6,000-lb.

Low Headroom Hoists 12 models — 1½- to 24-ton

I-Beam Trolleys 21 models — ⅛- to 25-ton

Clevis-Connected Hoists 11 models — ¼- to 10-ton

Differential Chain Hoists 2 sizes — ½- and 1-ton

Extended Hand Wheel Hoists 6 models — ¼- to 3-ton

Army-Type Hoists (plain and geared) 11 models — ¼- to 10-ton

Ask for more information on the units you need from the most complete line of hand-operated hoists. Write Dept. X5.

COFFING HOIST CO. DANVILLE, ILLINOIS

For more details circle NED-800 E4 on enclosed inquiry slip

Now! General Plate Electrical Contact Kits

for Laboratory and Development Use

K12 Electrical Contacts (Buttons)

K11 Electrical Contacts (Rivets)

A Wide Assortment of Sizes at Your Fingertips . . . Simplifies Design, Saves Time

These two General Plate Electrical Contact Kits are the answer to your contact requirements for development use.

Kit K11 contains a wide assortment of silver rivet contacts. Kit K12 has representative standard button contacts . . . silver facing on a base metal backing for projection welding. Also included are metal strips for fabrication of contact parts.

Dimensional working drawings are included so that you can duplicate the exact part on your own drawings.

These General Plate kits help you solve design problems by placing standard stock buttons and rivets at your fingertips. Once a design goes to production, there are no procurement delays . . . production quantities are available for immediate shipment from General Plate stock. Your contact inventories are minimized, "nonstandards" are eliminated, delivery delays are avoided.

Available at a nominal cost . . . write for complete information and prices today.

METALS & CONTROLS CORP.
GENERAL PLATE DIVISION
85 FOREST STREET, ATTLEBORO, MASS.

For more details circle NED-801 E4 on enclosed inquiry slip

New Processes and Materials

FLOOR DRESSING COMPOUNDS in four colors, arrest "dusting"

All types of floors including new or comparatively new concrete floors can be kept smooth, nonsanding and easy to clean with Bakeflex compounds. Bake-

flex regular is blend of synthetic resins in oil and is recommended for wood floors as a seal and finish. Bakeflex AWA is nonsaponifying, acid, water, alkali and grease resistant finish used to protect all types of floors where liquids are present. It arrests concrete "dusting" before it progresses to rutted condition. Products withstand heavy industrial traffic and are offered in tile red, battleship gray, emerald green, linoleum brown, as well as clear. Developed by **Flexrock Co.**, 3603 Filbert St., Philadelphia 1, Pa.

For more details circle NED-802 E4 on enclosed inquiry slip

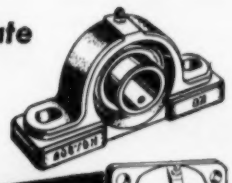
WELDING & BRAZING FLUX is suitable for all types of work

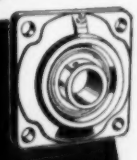
Reduced flux inventories are made possible by use of Uni-Flux which provides a suitable flux for all types of gas welding and brazing operations. It permits welding through lead, beryllium, aluminum, bronze, galvanize, copper, rust, grease, paint, tar and dirt. No precleaning is required. Compound is also useful for welding and brazing cast iron, chrome metals, stainless, Monel, aluminum, bronze, silver solder and many others. By producing an inert atmosphere around the weld area, it prohibits burning of foreign substances and floats them away with the wetting action of the melted flux. Made by **Andco, Inc.**, 235 Thorne Ave., Orchard Park, N. Y.

For more details circle NED-803 E4 on enclosed inquiry slip

How cost-wise buyers rate

SHAFT SUPPORTS





GOOD BETTER ✓BOSTON Gear

Bronze or Ball Bearing PILLOW BLOCKS FLANGED CARTRIDGES

IN STOCK AT 92 BOSTON *Gear* DISTRIBUTORS at Factory Prices

Look under "Gears" in the Yellow Classified Section of your Telephone Directory for the Distributor nearest you.

Get this Catalog . . . lists 5112 standardized machine parts . . . your reliable "textbook" of drive design and maintenance. Ask your BOSTON Gear Distributor, or write request to Boston Gear Works, 69 Hayward St., Quincy 71, Mass.

For more details circle NED-804 E4 on enclosed inquiry slip

THIS light-weight **HEAVY-DUTY MAGCOA DOCKBOARD IS**

A BETTER INVESTMENT—*here's why*

There are three reasons why this is the perfect Dockboard for *this* installation. (1) It is the exact length required for *this* car-to-dock span, with proper allowance for car width variations. (2) The dock end of the board is flared just enough for use on *this* narrow dock, permits part of the turn to be made while the truck is on the board. (3) It is built for weight requirements of *this* company's handling equipment and loads, with a margin of safety to spare.

Your dock is different and your local Magcoa Representative knows it. He's a loading dock expert—thorough and quick in fitting a Magcoa Dockboard to your specific needs. Then mass-production specialists at the Magcoa factory take over. Result: a light-weight HEAVY-DUTY Dockboard that solves your specific problems, quickly . . . and permanently.

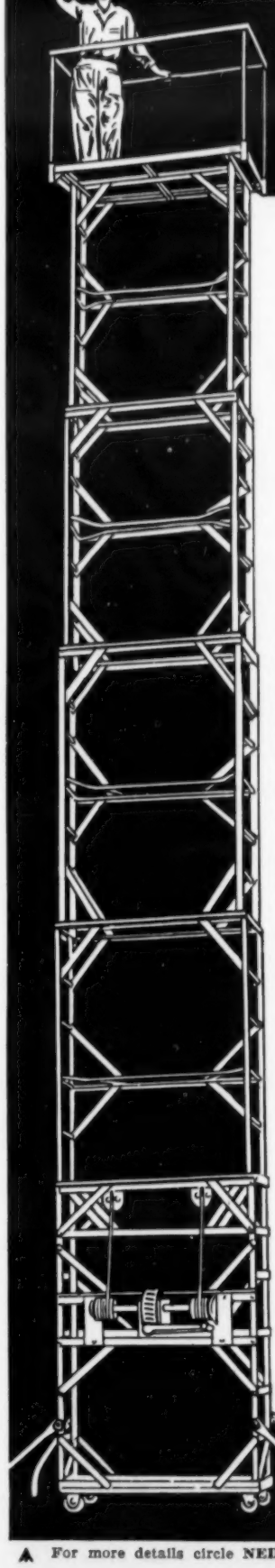
Safety, Service, Facts—Quarter-round safety curbs, one-piece hand holds and the other Magcoa safety and efficiency features make your Dockboard safe, permanent equipment. You get Magcoa Service, too, if abuse or misuse puts your Dockboard out of operation. Our free new Facts File gives you all the facts. It's yours for the asking.

MAGNESIUM COMPANY OF AMERICA
MATERIALS HANDLING DIV. • EAST CHICAGO 6, IND.

For more details circle NED-805 E4 on enclosed inquiry slip

FOR OVERHEAD MAINTENANCE . . .

Painting . . .
Lighting . . .
Cleaning . . .



HI-LIFT *Portable* **WORK PLATFORM**

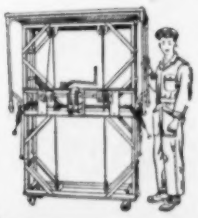
- No Erection Required
- Use at Any Height
- Safe, Sturdy, Dependable
- No Loose Parts
- Easily Rolled . . . Easily Raised

Sturdy, all welded steel construction means absolute safety . . . outrigger brace prevents tilting or rolling. Small enough to pass through doorway, yet raises to 20 ft. Endorsed by leading concerns.

Also Makers of HI-LIFT Extension Scaffold and ATLAS Portable Loading Platform

Write for Complete Information

ATLAS INDUSTRIAL CORP.
853 - 39th Street
Brooklyn 32, N. Y.



For more details circle NED-806 E4 on enclosed inquiry slip

NEW **Ejectopump**
COMPRESSED AIR OPERATED

for ABRASIVE and INFLAMMABLE LIQUIDS and SEMISOLIDS

Requires no lubrication

NO GLANDS
NO BEARINGS
NO MOVING PARTS

Now available for the first time in the U. S. Especially suitable for handling latex, bitumen, paint, chocolate, fruits and vegetables suspended in water, pottery slip, carborundum slurries, and various chemicals. Will not cause aeration or coagulation of materials. Available in 1½", 2", 3", 4" and 6" sizes.

Write today for complete details.

FERRO
FERRO CORPORATION
Supplies Division
4181 EAST 56th STREET • CLEVELAND 5, OHIO

▲ For more details circle NED-808 E4 on enclosed inquiry slip ▲

If your design problems include **transmission gears** ...
(up to 8H.P.)

investigate the
NEW **4 IN 1**
S-N
reversing transmission

Its space saving design combines forward – neutral – reverse and reduction. Insures smooth, quick reversing under full load – in a single unit.

But that's not all. Because of its compactness and space saving qualities, S-N Model 5108 is ideal for use where these qualities are at a premium. It offers the design engineer unlimited applications . . . especially for the design or redesigning of agricultural, materials handling equipment, construction and machine tools. Increases the versatility of the equipment in which it is installed, provides new economies in materials and assembly not available with ordinary transmission units.

Why not investigate its possibilities—now? A new illustrated folder indicating the wide range of applications for this new transmission is yours for the asking.

SNOW-NABSTEDT
Transmission Engineers
FOR NEARLY HALF A CENTURY
INDUSTRIAL DIVISION
THE SNOW-NABSTEDT GEAR CORP., HAMDEN, CONN.

▲ For more details circle NED-809 E4 on enclosed inquiry slip ▲

New Literature & Catalogs

Mechanical Controls & Mechanisms

Teleflex Inc.—16-page bulletin 500 is descriptive of Teleflex system used in mechanical control, linkages and mechanisms. System accurately transfers linear or rotary motion over a devious path without intermediate links or pulleys. Applications, including use in bus accelerator and transmission control, transmitter tuning controls and power switching device, are pointed up in 4-page section.

▲ For more details circle NED-810 E4 on enclosed inquiry slip ▲

Rotary Joints

Key Co.—Construction and operation of Phillips ball-and-socket type rotary joints for transferring liquids or gases into or out of revolving members are covered in 4-page illustrated folder. Sockets are available in either straight flow or inlet-outlet models in wide range of pipe sizes from ¼ through 3 in. and larger.

▲ For more details circle NED-811 E4 on enclosed inquiry slip ▲

Rolling Mills & Accessories

E. W. Bliss Co., Rolling Mill Div.—60-page illustrated booklet "Rolling Mills & Allied Equipment" contains a variety of installation photographs and descriptive data on mill equipment for the steel, brass and aluminum industries. Also included are 16 pages of data and charts including conversion tables, gages, weights of bars and other shapes, properties, SAE numbering system, and others of use to the engineer.

▲ For more details circle NED-812 E4 on enclosed inquiry slip ▲

Rubber Conveyor Belting

Hamilton Rubber Mfg. Corp. — 30-page catalog "Conveyor Belts by Hamilton" deals specifically with industrial rubber conveyor belting. Many full page photos of typical belting installations, plus informative technical data on belting constructions are offered. Belt covers, breaker fabric, rubber friction, skim coat and reinforced rubber edges are factors considered.

▲ For more details circle NED-813 E4 on enclosed inquiry slip ▲

Small Hole Drilling Machine

Hamilton Tool Co.—The A-M Super Sensitive small hole drilling machine which drills precision holes in small work at production speeds receives full description and illustration in 4-page bulletin AM-54. Drilling capacity ranges from 0.004 to 0.250-in., and spindle speeds range from 788 to 9500 rpm.

▲ For more details circle NED-814 E4 on enclosed inquiry slip ▲

Electric Pipeline Heaters

General Electric Co.—Numerous pipeline applications of G-E Calrod tubular heaters in industry are described and pictured in 8-page bulletin GEA-5095A. Comprehensive chart showing heat losses of vertical, solid, smooth surface of various metals is provided.

▲ For more details circle NED-815 E4 on enclosed inquiry slip ▲

Give Your Product the Advantages of...

PLASTIC NAMEPLATES by SILLCOCKS-MILLER

Here's what these quality nameplates can give you:

- Distinctive appearance.
- Unlimited choice of colors.
- Resistance to temperature and weather.
- Lasting protection to message.
- Materials to fit your specific service.
- Freedom from corrosion.
- Easily kept clean.

Sillcocks-Miller specialists can help you work out your requirements to make the most of these advantages. Write for details and send specifications for quotation.

The SILLCOCKS-MILLER Company — Pioneers in Plastic Fabrication since 1910
30 West Parker Avenue • Maplewood, N. J.

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TURNTABLES AND POSITIONERS over 100 different types for welding, brazing, soldering, spraying, glass insulator melting and glass glazing, with rotating stations and indexing with barrel cam or geneva gear action. For work transferring, tilting positions, motorized or hand operated. Rotating tables of all kinds for over 33 years. Many types made by EISLER. We supply any part or complete equipment and we make special turntables to your order. Write for catalog.

Eisler Indexing Turntables are Completely Electrically Controlled.

CAMS
MADE TO YOUR SPECS.

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EISLER ENGINEERING CO. INC., 740 S. 13TH ST., NEWARK 3, N. J.

▲ For more details circle NED-817 E4 on enclosed inquiry slip ▲

THE NAME THAT SYMBOLIZES
RENFROE
THE *Finest* IN *Steel Lifting Clamps*

12 page Catalogue FREE
on our complete line of Lifting Clamps

- Safety Snap Lock Clamp
- Lock on in any position
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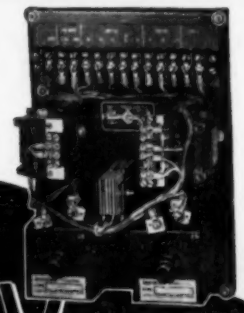
- Maximum Speed and Safety
- From 1 to 20 Ton Sizes
- Exceptionally light in weight
- Safety Factor 5 to 1
- The toughest clamp ever built

J. C. RENFROE & SONS, INC.
JACKSONVILLE, FLORIDA

▲ For more details circle NED-818 E4 on enclosed inquiry slip ▲

and NOW!



Stripped-Down **Variac**
MOTOR SPEED CONTROLS

To meet numerous requests from machinery manufacturers and users for a 'basic' model of the popular VARIAC® Motor Speed Control, two unmounted units are announced.

They are in ⅓- and ¼-hp sizes and include the essential control circuits mounted on a metal panel, completely wired, and an unmounted VARIAC with knob and dial.

Terminal strip on mounting plate has all necessary leads so that fusing, dynamic braking, start-stop-reverse functions, etc. can be readily added by the user.

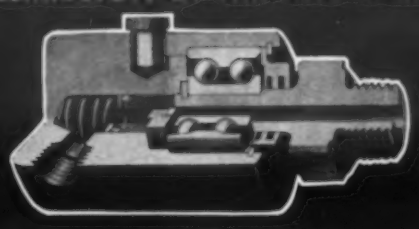
Type 1700-BS1 VARIAC Motor Speed Control (⅓ hp): $135
Type 1702-AS1 (¼ hp): $195

Write for the VARIAC Motor Speed Control Bulletin for Complete Data

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

▲ For more details circle NED-819 E4 on enclosed inquiry slip ▲

FAWICK ROTORSEAL
PROVIDES TROUBLE-FREE
TRANSMISSION OF AIR AND LIQUIDS



If your machine problem requires the transmission of air or liquids from stationary to rotating machine members, a FAWICK ROTORSEAL will provide the trouble-free, practical answer.

Precision-made ROTORSEALS are available in either single or multiple passage units, producing an absolute sealing of air, liquids, or gases under pressure. They are equally effective in vacuum applications. Thousands of installations have proved the high efficiency of FAWICK ROTORSEALS.

FAWICK AIRFLEX DIVISION
FEDERAL FAWICK CORPORATION
9919 CLINTON ROAD
CLEVELAND 11, OHIO

Write for ROTORSEAL Bulletin ML-6.

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

For more details circle NED-820 E4 on enclosed inquiry slip

Give your appliances this EXTRA VALUE ...at NO extra cost!

MARK-TIME
two-speed
BELL TIMER

Normally supplied with Center Stud mounting.

The exclusive, patented 2-speed feature of this Mark-Time unit makes it TWO timers in one! . . . and puts more "sell" into your appliances!

Here's why: in the long-time position, the user can measure time up to ONE HOUR for baking, roasting, stewing and other lengthy cooking operations . . . can use it as a reminder for appointments and other household jobs, tool By moving the lever to the short-time position, the user can obtain settings within seconds for boiling eggs, pressure cooking . . . precise timing for all short time jobs up to SIX MINUTES, where even fractions of a minute are important.

At the end of the pre-set time period, in either long or short range, this timer gives a clear, resonant bell signal.

Available with a wide variety of modern dials and knobs; also in 2-hour, 12-minute range.

Write today for full details and prices.

MARK-TIME
M. H. RHODES, INC.
HARTFORD, CONNECTICUT

Manufactured and sold in Canada by
SPERRY GYROSCOPE OTTAWA, Limited
3 Hamilton St., Ottawa, Ontario, Canada

For more details circle NED-821 E4 on enclosed inquiry slip

New Processes & Materials

ANTIFATIGUE MATTING
plastic resists corrosives, oils

To meet requirements of plants with special floor condition problems, such as dampness, chemicals, greases, oils and acids, antifatigue foot matting is now obtainable in Koralite plastic. Matting provides foot comfort with safe grip on floors for standing workers as well as resistance to deterioration. It is available with black or maroon top in widths of 18, 24 or 36 in. and in any length up to 100 ft. Made by **Ace Lite-Step Co.**, 1712 S. State St., Chicago 16, Ill.

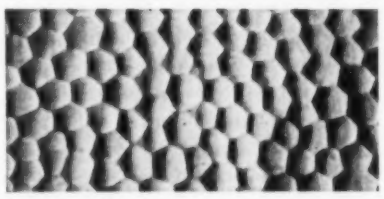
For more details circle NED-822 E4 on enclosed inquiry slip

PLATING BATH ADDITIVE
eliminates chromic acid spray

Chromic acid spray with its attendant air contamination and loss of solution is eliminated from chromium plating bath operations by Zero-Mist additive. Additive is completely stable and is unaffected by concentrated chromic acid solutions at any temperature and by high current densities. In addition to eliminating mist and spray, it also reduces film dragout by up to 50 per cent by virtue of its effect in reducing surface tension of the solution. It also eliminates duct work cleaning and necessity for water wash systems and moisture extractors. Made by **Udylite Corp.**, Dept. NED, 1651 E. Grand Blvd., Detroit 11, Mich.

For more details circle NED-823 E4 on enclosed inquiry slip

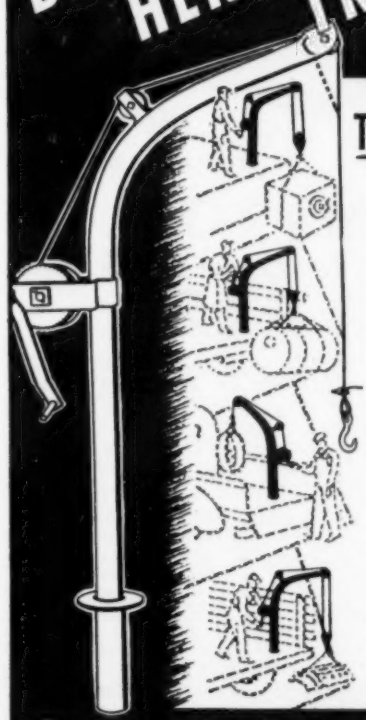
PATTERNED SHEET & STRIP
in hand-hammered metal effects



Three - dimensional hand - hammered metal effect is available in Rigid-Tex sheet or strip of any metal up to 38 in. wide. Called the 1-HM pattern, it has a maximum depth of 0.025-in. on metals up to 0.0312-in. thick. Pattern is nondirectional and nongeometric and is easily matched in fabrication and installation. Hammered effect increases strength of the metal, lowers its weight and gives it mar resistance. Finishes available are mill finish as rolled, mill finish with highlights, colorized and highlighted, painted or porcelain enameled without highlights. Made by **Rigidized Metals Corp.**, 717 Ohio St., Buffalo 3, N. Y.

For more details circle NED-824 E4 on enclosed inquiry slip

BLUE HERON TRUCK CRANE SAVES



Time Money Labor

ONE MAN can handle up to ONE TON —EASILY and SAFELY!—with a BLUE HERON TRUCK CRANE. Crane swivels through full circle; one man can lift from socket, leaving truck body clear.

Equip ALL company trucks with sockets. Then change cranes from truck to truck.

CHOOSE THE MODEL WHICH FITS YOUR REQUIREMENTS
Model O.C. 30A Cap. 500#
Model O.C. 30B Cap. 1000#
Model O.C. 30C Cap. 2000#

CAM TOOL CO., INC. 11 RANDWICK AVE. OAKLAND 11, CALIF.

For more details circle NED-825 E4 on enclosed inquiry slip

Here's Why "BUFFALO" INDUSTRIAL EXHAUSTERS get the job done better!

ENDURANCE
Punishment-proof construction includes all-welded, heavy steel plate housings and rotors; oversize shafts and bearings to take continuous gas exhaust or materials conveying service.

EFFICIENCY
Smooth interior surfaces with no rivet heads to cause friction, mean high efficiency air or materials exhausting with "Buffalo" Industrial Exhausters. This, plus easy maintenance, means lower operating cost.

MODELS FOR EVERY JOB
"Buffalo" Exhausters are built in models for high temperatures, corrosive fumes, erosive or stringy materials—even forced draft applications.

WRITE TODAY FOR BULLETIN 3567

BUFFALO FORGE COMPANY
215 MORTIMER ST. BUFFALO, NEW YORK
PUBLISHERS OF "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities

For more details circle NED-826 E4 on enclosed inquiry slip

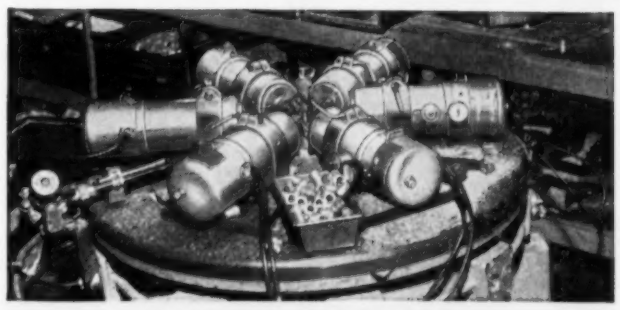
UNIVERSAL
BORING CHUCKS FOR ALL TYPES OF ROUGH AND FINISH BORING

Rigid, precise and accurate. Balanced for high spindle speeds. Positive, built-in center stop. Hardened and ground wearing parts. Completely enclosed mechanism. For complete information write to Universal Engineering Sales Co., 1060 Broad St., Newark 2, N.J.; 5035 Sixth Ave., Kenosha, Wis.; or the home office.

UNIVERSAL ENGINEERING CO. FRANKENMUTH 5, MICHIGAN
183-A

For more details circle NED-827 E4 on enclosed inquiry slip

Tooling simplified... output up...drill costs down



...with exceptionally versatile Dumore Automatic Drill Heads

To mass-produce a variety of small holes in connector plugs, Cannon Electric Mfg. Co. of Los Angeles bought 16 Automatic Drill Heads. These Drill Heads are being used in Multiple-head setups of four, six or eight heads per unit.

In one six-head, radially-mounted setup, production was upped 100%. On another job where all 16 heads were set up in four-head units, production was tripled. Cannon's chief production engineer says, "We're very pleased. Dumores increased production, cut drill breakage and simplified our tooling."

If you want similar all-around production, cost and tooling benefits — see your Industrial Distributor or write:

DUMORE PRECISION TOOLS
THE DUMORE COMPANY
1333 SEVENTEENTH ST. • RACINE, WISCONSIN

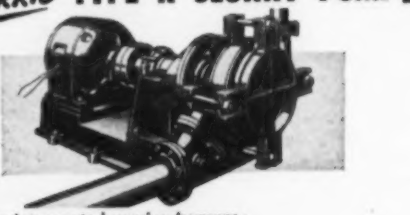
For more details circle NED-828 E4 on enclosed inquiry slip

Which of these Materials Needs More Efficient Handling in Your Plant?

Abrasive solids and chemicals in suspension • Silt
Slag • Acid slurries and sludges • Caustic liquors
Residue from filters and classifiers • Washery solids
Milk of lime • Coal • Tailings • Ore concentrates
Soda ash • Cement and glass sand slurries

Delivered 'round-the-clock (with fewer breakdowns) by

MORRIS TYPE R SLURRY PUMP



Longer uninterrupted service because:
- No internal studs to cause leakage
- Low pressure stuffing box practically eliminates packing troubles
- Impeller and liner removed without disturbing piping
- Moving parts available in various corrosion/abrasion-resistant alloys

Specifications and operation data on request. No cost — no obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Representatives in Principal Cities

MORRIS *Centrifugal Pumps*

▲ For more details circle **NED-830 E4** on enclosed inquiry slip ▲

THE CLEVELAND CRANE & ENGINEERING CO. USES PENETROL® CLEAR AIR-DRYING OIL

PENETROL INDUSTRIAL PRICES:
5 Gal. $15.75; 30 Gal. $88.50; 55 Gal. $159.50,
F. O. B. Hudson, Ohio. FREE LITERATURE!

PENETROL is manufactured by
THE FLOOD COMPANY, Hudson, O.

PENETROL has been used by the railroad, steel, shipping, oil, transportation and other industries for over 20 years . . .

to assure quick, long-lasting protection against rust and corrosion, with a minimum of money and labor!

PENETROL penetrates through the rust to the solid base metal . . . renders the rust completely inactive . . . and forms a tough protective film. This PENETROL film has exceptional adhesive qualities . . . dries in 18 to 36 hours to a slight surface tack. This property provides an exceptional bond or "tooth" for the following paint coat, but does not interfere with the easy application of the paint. Use the time-proved, money-saving, structure-preserving PENETROL method to assure protection against rust to all inside, hidden, and exterior surfaces. Order PENETROL now!

The Cleveland Crane & Engineering Co., Wickliffe, Ohio, uses the versatility of PENETROL to serve many important requirements.

Load bar castings (at left) are dipped in PENETROL for protection against rust and corrosion during outside storage. Transparent PENETROL coating permits visual inspection. Later, castings are machined without objectionable fumes.

T-rails and angles (center) are coated with PENETROL to preserve "new" appearance of metal, eliminate loss to scrap-pile by stopping corrosion, and stop wasted man hours in cleaning metal for paint operation.

Welded steel frames (right) are coated with clear PENETROL for protection against weather, and to provide a receptive, firm-holding bonding agent for final paint job.

▲ For more details circle **NED-831 E4** on enclosed inquiry slip ▲

New Literature & Catalogs

Meters, Controls & Test Equipment

Electro-Tech Equipment Co.—190 pages of catalog No. 54 comprehensively cover meters, controls and test equipment. Items are presented in manner designed to simplify selection of instruments in terms of economy, utility, manufacture and quality. Among items catalogued are test instruments; bridges, decades and recording instruments; panel and switchboard units; pyrometers and thermometers; service instruments; transformers, voltage regulators and rectifiers; timers and counters; heaters and furnaces; and switches and relays.

▲ For more details circle **NED-832 E4** on enclosed inquiry slip ▲

Steel Strapping Tools

Stanley Works, Stanley Steel Strapping Div.—The full complement of tools, equipment and accessories utilized in the "Stanley Steel Strapping System" is shown and described in 16-page catalog of this title. Highlighted is the power strapping machine available in two models—one for strapping bundles of lumber, cartons, boxes, crates, etc., the other for strapping wire coils and strip-steel coils.

▲ For more details circle **NED-833 E4** on enclosed inquiry slip ▲

Chucking & Stub Reamers

Twentieth Century Mfg. Co.—Bulletins 10 and 15 of 4 pages each respectively describe Superream chucking reamers and stub reamers in decimal sizes. Ranges and list prices are tabulated. Former in sizes from No. 000 to 1½-in. diameter are made in standard as well as undersize and oversize dimensions, while latter in 0.0321 to 1.510-in. diameters are precisely made for screw machines, lathes and drill presses.

▲ For more details circle **NED-834 E4** on enclosed inquiry slip ▲

Evaluating Shielded Enclosures

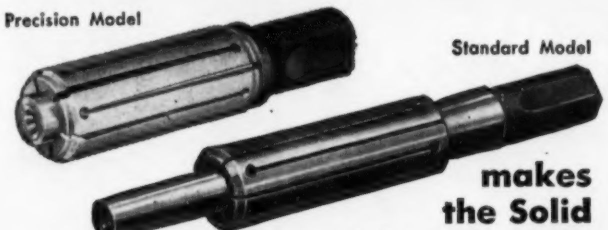
Ace Engineering & Machine Co.—Comparison and evaluation of the major factors involved in shielded enclosure specification are reduced to their basic engineering equivalents in this 16-page brochure "Evaluating Shielded Enclosures." Filters and filter performance, structural factors, screen rooms vs solid sheet enclosures, contacting of components and air inlets are among many subjects covered.

▲ For more details circle **NED-835 E4** on enclosed inquiry slip ▲

Induction Motors

Electric Products Co.—Line of standard NEMA frame size motors described in 4-page illustrated bulletin 37-205 comprises models from ½ to 125 hp that can be installed anywhere in any climate. Dripproof, totally-enclosed fan-cooled, totally-enclosed fan-cooled explosionproof and totally-enclosed nonventilated explosionproof models are offered. Table presents all dimensions.

▲ For more details circle **NED-836 E4** on enclosed inquiry slip ▲



makes the Solid Arbor obsolete

CHAMPION E-X-P-A-N-D-I-N-G MANDRELS

The expanding sleeve, mounted on tapered arbor, expands automatically to fit the hole. Inserted by hand — no arbor press needed. Always an exact, positive, concentric fit. Locked by a single mallet blow. Unlocked the same way. CHAMPION Expanding Mandrels are used in machine shops around the world. Save time, cut production costs, whether the job calls for machining one piece or a thousand.

Precision Model has expansion range of .010". Available in regular sizes to fit holes from ½" to 3" diam. Holds work to tolerances of .0002" run-out. Guaranteed for precision grinding, turning and milling operations.

Standard Model maintains close tolerances, handles material of any length bore, hard or soft metals — from thin tubes and bushings to heavy castings and forgings. A set of fourteen will fit every hole from ½" to 9½" diam.

CHAMPION *Expanding Mandrels can be made in special shapes and sizes to fit any specifications. Quotations on request. Write for descriptive folder today.*

WESTERN TOOL & MFG. CO., INC.
Our 53rd Year • Dept. 29 • Springfield, Ohio

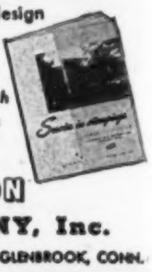
▲ For more details circle **NED-837 E4** on enclosed inquiry slip ▲

LONG RUNS—with complete press range capacity for minimum unit cost.

SHORT RUNS—with low tool charge, special purpose presses.

MACHINE-CUT ORDERS—from 1 to 100 parts with no tool expense.

- Complete Quality Control Department eliminates rejects
- Recommended by 1500 current customers
- Respect for delivery promises
- Complete quotes—no extras
- Cost-cutting design suggestions

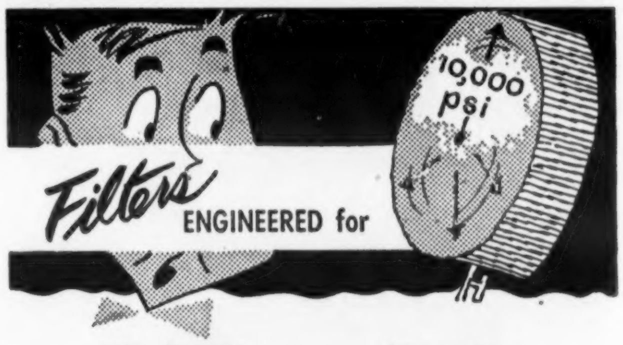


***SEND TODAY** for our free 12-page booklet with helpful facts to consider when buying stampings*

STAMPINGS DIVISION
LAMINATED SHIM COMPANY, Inc.
2305 UNION STREET ESTABLISHED 1913 GLENBROOK, CONN.

Manufacturers' of the famous LAMINUM shims that peel for adjustment

▲ For more details circle **NED-838 E4** on enclosed inquiry slip ▲



High Pressure Service

Up to 10,000 PSI
Permanent Filter Element (Porous Stainless Steel or Porous Fluorocarbon)
In Line Construction
Low Pressure Drop
Corrosion resistant
All Stainless Steel
Code Construction
For Liquids and Gases

Write for Bulletin No. 20B

Another filtration engineering service of

MICRO METALLIC CORPORATION
32-B Sea Cliff Ave. Glen Cove, N. Y.

PALL
The Pall Filtration Companies
Micro Metallic Corporation | Porous Plastic Filter Co. | Aircraft Porous Media, Inc.

▲ For more details circle **NED-839 E4** on enclosed inquiry slip ▲

THE RIGHT BOX CAN DO A JOB FOR YOU

SPECIAL PACKAGING—not a throw-away box—where box is a premium or a necessity for assured protection of product in shipping or use.

Use Lite-TUFF PLASTIC BOXES

Lite-TUFF Standard Boxes and Containers of Non-Flam* lightweight plastic made of approved material are no fire hazard. They are available in a wide variety of compartment arrangements. LOW DIE COST ON CUSTOM MADE.

- Very tough—will not crack or shatter in normal use.
- Stainless steel hinges.
- Resistant to most chemicals—samples supplied for tests.
- May be beautifully heat embossed.
- All transparent or color combinations.
- Make your own compartment layout on our PLOT PLAN Sheets.
- State your problem—let us solve it.

Full information and Plot Plan Sheets sent upon request . . . Dept. B5
* Reg. U. S. Pat. Off.

SHOE FORM CO. INC., Auburn, N. Y.

▲ For more details circle **NED-840 E4** on enclosed inquiry slip ▲

FREE BOOKLETS
TELL ALL ABOUT ALUMINUM WIRE

Get the full facts about what a wonderful job U. S. Rubber Aluminum Wires and Cables are doing for the electrical industry. These two clearly written, informative booklets are packed with data on specifications, standards, photographs showing stripping, joining, soldering—installation facts of all kinds, plus property tables. These booklets are FREE. Send for your copies today!

UNITED STATES RUBBER COMPANY
Electrical Wire and Cable Department
ROCKEFELLER CENTER • NEW YORK 20, N. Y.

For more details circle **NED-841 E4** on enclosed inquiry slip

AT LAST!
LOW-COST CLARIFICATION
for finish grinding coolant

with
THE NEW AUTOMATIC HOFFMAN MAGNA-FLOMASTER COMBINATION

In fine finish grinding operations absolute clarity of coolants is imperative if product finish is to be protected. With the new Magna-Flomaster Combination coolants are actually doubly protected because they get double clarification. First by the Magnaflo where 75% to 90% of ferrous solids are settled out or removed by a magnetic plate. Second by the Flomaster Filter where wheel grit and "fines" are removed.

The result is a coolant so clear it can be used over and over again, eliminating the need for large purchases of make-up coolant. Coolant savings, plus the smallest possible maintenance expense, add up to a truly low-cost operation.

HERE'S WHAT YOU GET
- Complete protection of finish
- The finest filtering at full flow rates Removes particles from 20 down to 5 microns
- Low-cost operation—low filter load gives almost double the normal cartridge life
- Oil and coolant savings
- Reduced maintenance costs. No filter bags to change — no plates to scrape down. Flomaster Filter cartridges take only a few minutes to change
- Near-dry sludge for easy disposal

Write for technical bulletins giving full details

Hoffman
INDUSTRIAL FILTRATION EQUIPMENT & SERVICE
U. S. HOFFMAN MACHINERY CORP., 225 LAMSON STREET, SYRACUSE 6, N. Y.
In Canada: Canadian Hoffman Machinery Co., Ltd., Newmarket, Ont.

For more details circle **NED-842 E4** on enclosed inquiry slip

New Processes & Materials

RESIN DIAMOND WHEEL has long dry grinding life

Ability to hold its edge well during grinding operations is a feature of the Robot resin diamond wheel for dry grinding. It has a long life, free and cool

cutting action, and is nonloading, resulting in less need for frequent dressing operations. Accuracy of grind can be maintained as little expansion and shrinkage takes place during use. Made by **Action Diamond Tool Co.**, 4545-N W. Grand Ave., Chicago 39, Ill.

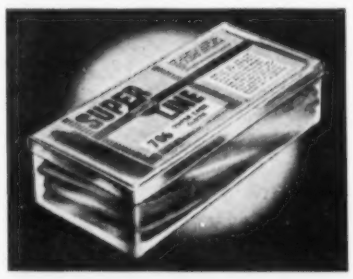
For more details circle **NED-843 E4** on enclosed inquiry slip

PALLETIZING ADHESIVE releases easily on vertical pull

Palletizing or unit loading of bag or case shipments is simplified with Palletite, a nonskid, ready-to-use, moisture resistant adhesive. Product resists horizontal shifting during transit, but releases easily on vertical pull. It can be applied by machine or brush, and one gallon is sufficient to palletize a carload shipment. Advantages possible with adhesive's use include fast loading and unloading, facility in keeping inventory on lot shipments, and efficient use of warehouse facilities and of mechanical handling equipment. Developed by **Swift & Co.**, General Adhesives Dept., 4115 S. Packers Ave., Chicago 9, Ill.

For more details circle **NED-844 E4** on enclosed inquiry slip

TACK CLOTH picks up dirt and dust



Picking up and holding dirt and dust particles from surfaces to be painted is function of the No. 706 Super Tack Cloth, packaged in a clear plastic box. It is on open-mesh woven textile cloth, treated with a solution that remains tacky or sticky. Cloth measures 18 x 36 in. Made by **Associated Producers, Inc.**, P. O. Box 106, Detroit 20, Mich.

For more details circle **NED-845 E4** on enclosed inquiry slip

When you want Nylon Performance
with low tooling cost...design with
POLYPENCO® ROD, STRIP, TUBING

APPLICATIONS: Bearings, Connectors screws—rivets, Coil forms, Gears, Rollers, Thrust washers, Valve seats, Wearing surfaces, Insulators
CHARACTERISTICS: Abrasion resistance, Electrical insulation, Light weight, Heat resistance, Quiet operation, Toughness, Resilience, Low coefficients of friction

You can fabricate parts readily (drill, tap, thread, turn, mill, blank) from standard shapes of POLYPENCO nylon on standard shop equipment. This keeps tooling cost low and makes nylon economical without costly tooling. Call on us for engineering help. We will tell you if nylon is practical for the application, how to fabricate it—or we will fabricate it for you. Write for prices or technical data.

POLYPENCO NYLON
nylon and teflon*/stock shapes, finished parts
also available to your specifications
The POLYMER CORPORATION of Penna. • Reading, Penna.
In Canada: Polypenco, Inc., 2053 St. Catherine, W., Montreal, P. Q. *registered trademark of the Du Pont Company

For more details circle **NED-846 E4** on enclosed inquiry slip

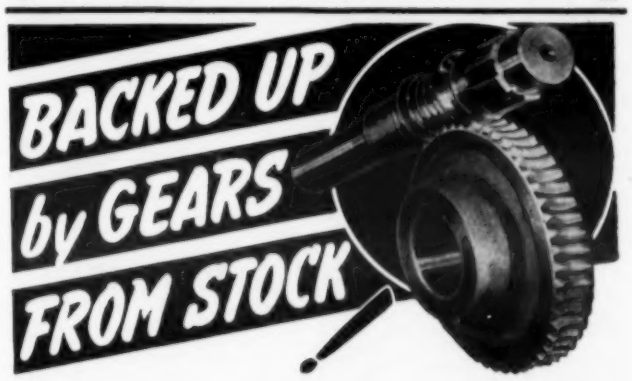
VAC-U-LIFT
Lifts Anything.....
FASTER BETTER CHEAPER } **Materials Handling**

OBSOLETES ALL OTHER METHODS

"Vac-U-Lift", the all purpose Material Handler is a time saver and money maker. It's so easy to use, so inexpensive to operate that other methods can't match it for efficiency and economy.
"Vac-U-Lift" lifts heavy objects without customary prying and blocking. "Vac-U-Pads" supply lifting power of approx. 1000 pounds each with ample safety factor. Many sizes and designs available, or we will build a unit to your specifications.
FREE illustrated literature gives complete details. Write today. (All Patent Rights Reserved)

BLAKESLEE VAC-U-LIFT
BLAKESLEE MANUFACTURING CO., Inc.
SALEM, ILLINOIS

For more details circle **NED-847 E4** on enclosed inquiry slip



Even when you specify such phenomenally long life gear sets as Cone-Drive double enveloping gearing, it helps to know that if you ever need replacements you can get them *—from stock!*

Make sure of that by specifying *STANDARD* Cone-Drive gear sets and reducers.

They will also give you these "plus" advantages:
- **Smaller center distances**
- **Up to 2/3 less weight**
- **More teeth in contact**
- **Lower overall cost**

STANDARD Cone-Drive gear sets come in ratios from 5/1 to 70/1; will handle loads from fractional to over 800 hp. Write for specifications.

CONE-DRIVE GEARS Division, Michigan Tool Company
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
7171 E. McNichols Road • Detroit 12, Michigan

For more details circle **NED-848 E4** on enclosed inquiry slip

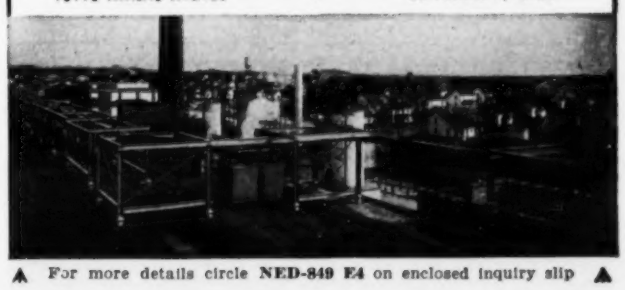
AUTOMATIC "UP AND OVER" TRANSFER

SAVES $30,000 PER YEAR

Here is an "Up-and-Over" system that eliminates 72 hours of handling labor per day. It automatically transfers 180 full bobbin boxes from three floors of one mill to one floor of another and returns the empties. Estimated savings in labor, trucks, floors and traffic congestion run upwards of $30,000 per year.

It is another of the many examples of American Mono-Rail engineering for low-cost handling within space limitation. Let one of our field representatives explain further the versatility and low maintenance of American Mono-Rail equipment.

THE AMERICAN MONORAIL COMPANY
13116 ATHENS AVENUE • CLEVELAND 7, OHIO



For more details circle **NED-849 E4** on enclosed inquiry slip

To Reduce Costs—
Improve Products—Save Time

Use Cherry Blind Rivets

To reduce unit costs, save assembly time and improve product designs, many manufacturers use Cherry Blind Rivets.

This is the rivet that is installed by one man from one side of the work—economically and quickly. There is no bucking—no hammering—no twisting—no exploding. Cherry Rivets are used in double-surfaced structures, box sections, tubes, ducts, and other hard-to-reach places.

Several factors reduce unit costs. To begin with, one man is eliminated from the rivet crew. Also, material spoilage is reduced because Cherry Rivets are installed by a pulling action—the gun won't mar surfaces or shatter brittle materials with violent blows.

Other advantages—they pull up tight, resist vibration, eliminate nuts, bolts, and washers—provide a permanent tamper-proof fastening.

To reduce costs, improve products, and save time, write for Cherry Rivet bulletin TL-76.

Townsend Company
NEW BRIGHTON, PENNSYLVANIA

▲ For more details circle **NED-853 E4** on enclosed inquiry slip ▲

***make it* STRONGER**
***do it* FASTER**
with

Super-flexible stranded copper wire welded to tin-plated brass lug (.020")

RAYTHEON WELDPOWER*

Stranded tinned copper wire welded to cadmium-plated socket for "grain of wheat" pilot light.

Raytheon Condenser Weldpower Control units are available in three sizes with appropriate Weldpower Heads.

Attaching copper lead wires is only one example of the many applications where Raytheon Weldpower Units eliminate slow, less satisfactory methods.

Let us show you how Raytheon Weldpower can improve production of small parts involving assembly of ferrous, non-ferrous or dissimilar metals. Send samples and details . . . or write for complete information. Address Dept. NE-5.

*Reg. U. S. Pat. Off.

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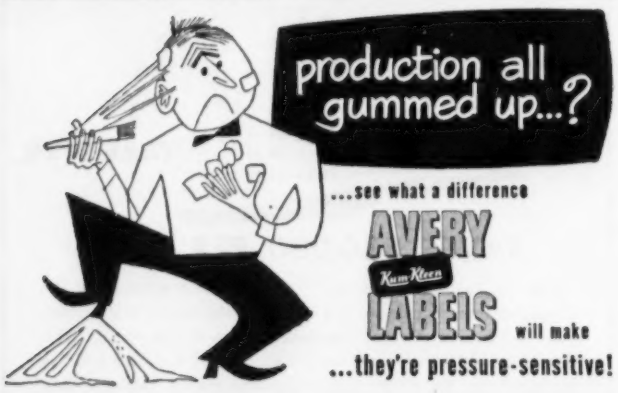
Excellence in Electronics
RAYTHEON MANUFACTURING COMPANY
Equipment Sales Division, Waltham 54, Mass.
DISTRICT OFFICES: Boston • New York • Cleveland • Chicago
New Orleans • Los Angeles (Wilmington) • San Francisco • Seattle
INTERNATIONAL DIVISION, 19 RECTOR STREET, NEW YORK CITY

▲ For more details circle **NED-854 E4** on enclosed inquiry slip ▲



■ Self-adhesive Avery Labels are quick, clean and neat... there's no mess, no fuss, no sticky fingers. Combined with patented Avery dispensers, they'll speed and simplify your labeling—and production! They're laid right on your product—*without moistening*. They'll put your trade mark on that hard-to-label surface...put a warning sticker or wiring diagram on your product or any clean, smooth spot. For inspection stickers...color coding...guarantees—they'll really speed production, packaging or any labeling or marking job!

■ Available in sheets or rolls...in any size, shape or color. Write for case histories and FREE SAMPLES—*today!*

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☐ Send us case histories & free samples
☐ Tell us about your dispensers
☐ Have the Avery Label man call

Name_____
Company_____
Address_____
City_____ State_____

▲ For more details circle **NED-855 E4** on enclosed inquiry slip ▲

New Literature & Catalogs

Automatic Fire Protection Systems

Blaw-Knox Co., Automatic Sprinkler Dept.—"Fire Can Destroy Your Business" is title of 8-page bulletin 2426 which outlines advantages of Blaw-Knox automatic fire protection systems. Reduction in fire insurance costs resulting from the installation of these systems will pay cost of complete installation in five to ten years according to study. Water, fog, foam and carbon dioxide systems are discussed and sprinkling devices are shown.

▲ For more details circle **NED-856 E4** on enclosed inquiry slip ▲

Abrasive Shot & Grit

Abrasive Shot & Grit Co.—Blastrite line of abrasive materials, including chilled cast iron, Hi-alloy B cast iron and malleable shot and grit as well as steel and cut steel wire shot, receives description in 12-page catalog AB-53. SAE specification charts for each product will aid in determining type and size of abrasive best suited for the job.

▲ For more details circle **NED-857 E4** on enclosed inquiry slip ▲

Induction Heat Forging

General Electric Co.—Prime benefits of induction heat as utilized in the forging industry are outlined in 8-page bulletin GEA-5983. Included is series of well illustrated case histories covering various on-the-job applications. Frequency-time-work diameter charts are provided as an aid in determining power requirements.

▲ For more details circle **NED-858 E4** on enclosed inquiry slip ▲

Data Processing

International Business Machines Corp.—"Light on the Future" is 32-page booklet which discusses principles and components of electronic data processing equipment. In addition to comparing construction and application of analog and digital computers, booklet explains functions of input, storage, arithmetic, control and output components.

▲ For more details circle **NED-859 E4** on enclosed inquiry slip ▲

Milling Cutters

National Twist Drill & Tool Co.—40-page report on "Milling Cutters" is intended to serve as a guide to industry in properly applying the many available tool materials with respect to correct design, use and care of these tools. Report is fourth in a series and is sponsored by Metal Cutting Tool Institute.

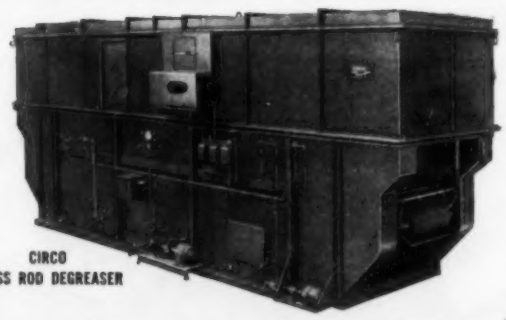
▲ For more details circle **NED-860 E4** on enclosed inquiry slip ▲

Solenoid Valves

A-P Controls Corp.—Comprehensive 6-page bulletin RS111 furnishes complete information on construction details, dimensions and pertinent features regarding four types of model 73 solenoid valve. Applications in all industrial fields are outlined. Units are designed for 300 psi maximum operating pressure.

▲ For more details circle **NED-861 E4** on enclosed inquiry slip ▲

Circo Vapor Degreasers use 30% less solvent



CIRCO
CROSS ROD DEGREASER

New, modern Circo vapor degreasers—whether large or small—are engineered to save on solvent consumption. Construction features like balanced condensing coils, leak-proof pumps and dual vapor-level control are today saving companies 30% and often more in solvent use. Circo degreasers perform faster, save precious man-hours through engineering designs developed through 30 years experience in vapor degreasing.

Circo Introduces Ultrasonic Cleaning

Write for details on the most modern, talked about metal cleaning development of the century—the Circosonic degreaser that cleans small metal parts by the power of sound.

Send for Circo's comprehensive 32-page Manual on Vapor Degreasing. No Obligation.

SINCE CIRCO 1923
EQUIPMENT COMPANY
126 Central Avenue, Clark (Rahway), New Jersey Offices in Principal Cities
PER-SOLV (Perchlorethylene) CIRCO-SOLV (Trichlorethylene)
Vapor Degreasers • Metal Parts Washers • Dryers • Solvent Recovery Stills

▲ For more details circle **NED-862 E4** on enclosed inquiry slip ▲

NOW, ABOUT B&W HEAT EXCHANGER and CONDENSER TUBES

SEAMLESS and WELDED

B&W Bulletin TB-329A contains specifications and data on various grades, size ranges and general application data. It's written to help you. Send for it, Bulletin TB-329A.

TA-4053 (LP)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

▲ For more details circle **NED-863 E4** on enclosed inquiry slip ▲

PIONEER
MANUFACTURER OF...

• PUMPS
FOR EVERY REQUIREMENT

• COMPRESSORS
FOR DURABLE SERVICE

• REFRIGERATION
EQUIPMENT FOR EVERY NEED

• AIR CONDITIONING
FOR ANY CAPACITY

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PUMP AND COMPRESSOR CO.
374-378 Verona Ave., Newark 4, N. J.

OFFERING 24 HOUR . . .

EMERGENCY REPAIR SERVICE

HUMBOLDT 2-3727-8

WRITE FOR LIST OF OUR DEALERS

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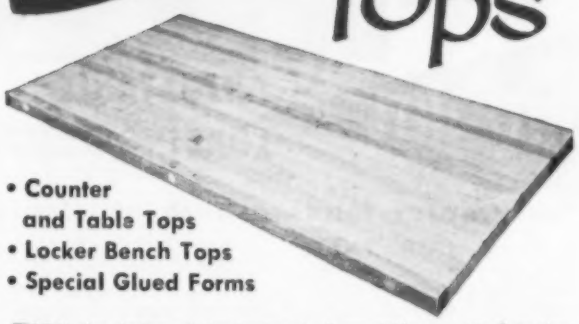
HARDWOOD LAMINATED Bench Tops



- Counter and Table Tops
- Locker Bench Tops
- Special Glued Forms

FROM the drying of the lumber in Sensenich's own kilns* to the cutting, forming and gluing of every hardwood laminated top, the highly trained Sensenich craftsmen play an important part. These skilled workmen use the finest equipment to produce high quality wood parts with thorough efficiency and economy. Remember too, Sensenich is the world's largest producer of wood propellers for personal planes. Sensenich has more than 20 years experience in conditioning, cutting and gluing wood forms to the most exacting standards.

We will be glad to quote on your requirements . . . your request will receive prompt attention.

SENSENICH AIRCRAFT PROPELLERS

*Certified by the United States Air Force

SENSENICH CORPORATION
Dept. ND, Lancaster, Pennsylvania

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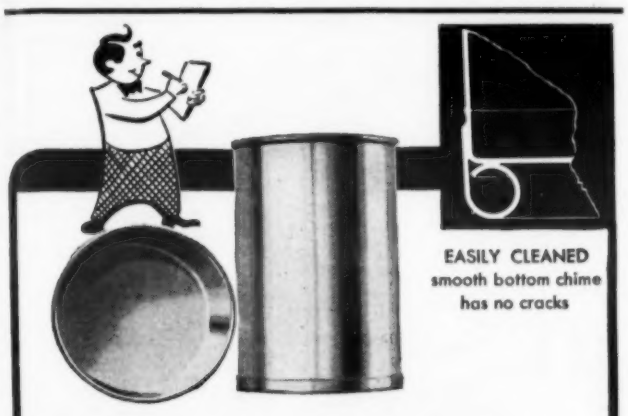


Compare the Advantages...

...of using Hackney Stainless Steel Containers for batch mixing and in-plant handling: swift, easy cleaning—no product contamination—long useful life.

Compare the cost of cleaning Hackney Containers that have the pressed out *seamless* type bottom—(no crevice). Cost records often show it's more economical to use durable, easy-to-clean Hackney Containers of Stainless Steel.

Available in standard sizes of 20, 30, 50 and 55 gallons. Or write for information on other sizes.

Hackney MILWAUKEE

Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 66th St., Milwaukee 14, Wis.

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

For more details circle NED-866 E4 on enclosed inquiry slip

Sturtevant
MICRONIZER* GRINDING MACHINE

Reduces Solids to Micron Sizes

The new Sturtevant *Micronizer* grinding machine is a fluid jet grinder especially designed to reduce solid materials to particle sizes in the micron ranges.

Sturtevant *Micronizers* are used for simultaneous dry grinding and classification of solids. The variety of materials that can be processed is large and includes both metallic and non-metallic minerals and ores, metals, pigments, insecticides, fungicides, pharmaceuticals, plastics, dyes and numerous other organic and inorganic products. Available in capacities from ½ to 3000 pounds per hour.

*Micronizer is the Registered Trademark of the Sturtevant Mill Co.

STURTEVANT MILL COMPANY
114 CLAYTON STREET, BOSTON 22, MASSACHUSETTS
Designers & Manufacturers of:
DENS AND EXCAVATORS • MIXERS • SCREENS • PULVERIZERS
ELEVATORS • AND COMPLETE FERTILIZER UNITS

For more details circle NED-867 E4 on enclosed inquiry slip

New Processes & Materials

FILAMENT TAPE
for packaging, carton reinforcing

Made with an acetate film backing, No. 898 Scotch transparent pressure-sensitive filament tape for packaging and carton reinforcing has a tensile strength of 325 lb per inch of tape width. It derives its strength from continuous glass filaments permanently imbedded in the adhesive. Tape is 8 mils thick and will not stretch or loosen. Availability is in ¼ to 1-in. widths on 60-yd rolls. Made by **Minnesota Mining & Mfg. Co.,** Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

For more details circle NED-868 E4 on enclosed inquiry slip

PROTECTIVE COATING
resists ultraviolet light, salt air

Deteriorating effects of ultraviolet light and ozone are withstood by Violite, a transparent coating used as a final coat over painted surfaces, vinyls and other coatings and materials. It also offers resistance to excessive humidity and salt-laden atmospheres and prevents oxidation of metallic surfaces. Coating is applied about 0.001-in. thick and hardens upon evaporation of the solvent. Made by **Booker-Cooper, Inc.,** Dept. N, 6940 Farmdale Ave., North Hollywood, Calif.

For more details circle NED-869 E4 on enclosed inquiry slip

NICKEL-IRON CORES
for use in torroidal windings

Permeron nickel-iron cores for torroidal windings are available in a range of sizes up to 20 in. OD. Originally developed as a high permeability core for the saturable reactor on mechanical rectifiers, they have application in magnetic amplifiers, transductors, impulse transformers and other equipment. Steep hysteresis curves indicate rapid, maximum flux change from negative to positive saturation, within a small magnetizing current range. Made by **I-T-E Circuit Breaker Co.,** Mechanical Rectifier Div., 1900 Hamilton St., Philadelphia 30, Pa.

For more details circle NED-870 E4 on enclosed inquiry slip

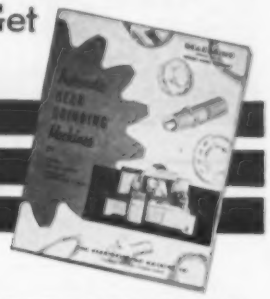
DIXON
ONE MAN coil stock grabs all sizes... LIFT TURN STACK

COMPLETE LINE OF COIL HANDLING EQUIPMENT
- From Slitter
- To Storage
- To Reel

DIXON Automatic Tool, Inc.
2300 23rd AVE. • ROCKFORD, ILLINOIS

For more details circle NED-871 E4 on enclosed inquiry slip

New Formgrinding Catalog Shows How To Get Unequalled



SPEED, VERSATILITY, ECONOMY

With GEARGRIND AUTOMATICS

YOUR PARTS—for aircraft, automotive, and many machinery applications, will be ground faster, more accurately on Geargrind Automatics. See how and why in this comprehensive catalog—just off the press. It tells how and why Geargrind Automatics give you

- greater variety of work
- operations never before possible
- an unmatched combination of features
- engineering service that's *really* helpful.

GEARGRIND Detroit SEND TODAY

3925 Christopher, Detroit 11, Michigan

For more details circle NED-872 E4 on enclosed inquiry slip

O-M CYLINDERS (air • hydraulic)

FIT WHERE OTHERS WON'T!

O-M Cylinders require up to ⅓ LESS INSTALLATION SPACE than conventional Cylinders of the same bore because O-M's *Special, Interlocking Mechanism* eliminates projecting tie rods and bulky end caps. In addition, the "O.D." of O-M Cylinders can be easily and accurately machined for cartridge mounting within your equipment.

O-M Special Interlocking Mechanism also assures perfect alignment giving O-M the lowest coefficient of friction of any cylinder. Thus, O-M Cylinders are smoother operating at low or high speeds regardless of length of stroke. Easily removed, inspected, repaired, replaced. Completely interchangeable parts.

Available in a full range of sizes (1½" to 8" bores) with standard, 2 to 1 or oversize rods. *14-day delivery on most sizes.*

Write today for FREE catalog and complete set of ½- and ¼-scale templates showing all cylinders and mounting brackets.

MAIL COUPON TODAY!

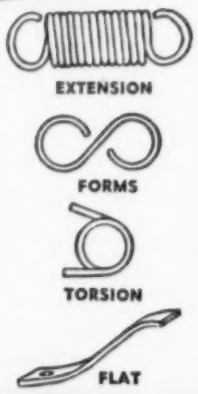
ORTMAN MILLER MACHINE CO.
1222 150th Street • Hammond, Indiana
☐ Please send latest O-M catalog. ☐ Complete set of templates.
Name.....
Company.....
Address.....
City.....Zone.....State.....

For more details circle NED-873 E4 on enclosed inquiry slip

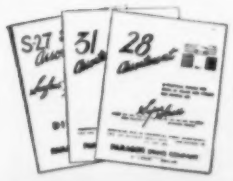
QUALITY CONSCIOUS SPRING BUYERS CHOOSE

PARAGON SPRINGS

Springs from Paragon are good springs . . . because of our complete control during manufacture. Our customers know that even commercial springs are better from Paragon . . . at no extra cost. Whatever your requirements . . . Precision or Commercial . . . your orders and inquiries receive expert individual attention.



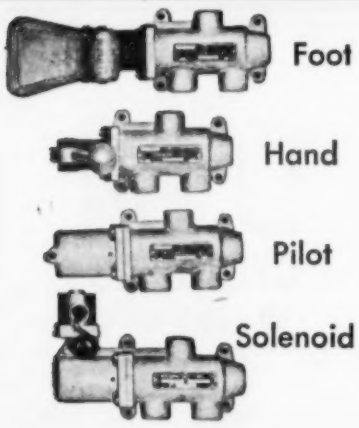
SEND SPECS FOR QUOTATION



Write for STOCK SPRING DATA SHEETS giving complete specs, loading and design information.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

For more details circle NED-875 E4 on enclosed inquiry slip



New Schrader 4-Way Valves

These new Schrader Valves are primarily designed to operate Double-Acting Cylinders. Their simplified design and construction assure long service with minimum maintenance. Can be serviced without removal from air hose. Available in ¼, ⅜, ½ and ¾ N.P.T., they are produced for flow capacities from 160 to 425 cfm free air at 100 psi inlet pressure.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Ave. Dept. E-49 Brooklyn 38, N. Y.

For more details circle NED-876 E4 on enclosed inquiry slip

Here Is The Reason So Many Firms Specify....

Mall POWER TOOLS

Over the years leading firms have proved to themselves that to specify MALL TOOLS is to specify "satisfaction" for everyone concerned with the use and operation of power tools. The reason is that MALL means highest quality, larger selection, dependable service and prices that are lower on the average. Experienced users will verify the fact that MALL TOOLS stay on the job longer and are easier to keep on the job. Clip coupon below for full facts.

These are just a few of the many electric and pneumatic tools made by MALL. Mail this coupon for complete information.

40 Factory-Owned Service Warehouses, Coast to Coast, To Give You Fast, Dependable Service.

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Send me full facts about MALL (Electric) (Pneumatic)
☐ Drills ☐ Grinders ☐ Screwdrivers
Name
Company
Address
MU-106

For more details circle NED-877 E4 on enclosed inquiry slip

New Literature & Catalogs

Tools for Screw Machines

Barnaby Mfg. Co.—General information and prices for line of rotary stock stops, chuck type and conventional floating holders, nonreleasing tap holders and hinged shoe bushing blanks are found in 4-page illustrated bulletin. Sizes and dimensions are given.

For more details circle NED-878 E4 on enclosed inquiry slip

Packaged Air Conditioners

Worthington Corp.—Features of packaged air conditioners described and illustrated in 12-page bulletin C-1100-B49 include lubricated-for-life fan, viscous type filter, fan motor ball bearings and accessories that provide for all-directional air circulation and winter climate control. Operating details, construction features and sizes available are covered.

For more details circle NED-879 E4 on enclosed inquiry slip

Overhead Traveling Cranes

Abell-Howe Co.—Capacities up to 15 tons and spans to 60 ft are available in Cranemaster series of industrial overhead traveling cranes in illustrated bulletin 6-B. Four models are assembled from standardized parts. Construction details and optional features are shown, latter including control from floor or cab and fluid drive.

For more details circle NED-880 E4 on enclosed inquiry slip

Table, Tray, Shelf & Rack Trucks

Wilder Mfg. Co.—Briefly described and illustrated in 4-page folder No. 75 are medium and heavy duty platform and table trucks, tray and shelf trucks, rack trucks and the No. 500 universal truck which can be assembled in any of eight combinations for handling small parts, large items, bars, sheets and flats.

For more details circle NED-881 E4 on enclosed inquiry slip

Book of Rope Facts

American Mfg. Co.—Tables and pictures found in "American Book of Rope Facts" describe various rope products and their ability to meet varied demands. Section is devoted to synthetic fiber ropes, including nylon, polyethylene, Saran, glass and Dacron.

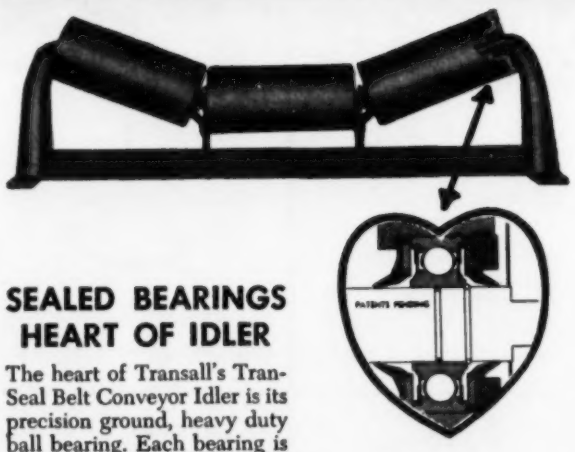
For more details circle NED-882 E4 on enclosed inquiry slip

Masonry Maintenance

Stonhard Co.—Information on how to solve such building maintenance problems as dangerous and unsightly floors; patching or overlaying concrete areas damaged by acid, grease, oil or wear; hardening concrete surfaces; preventing water seepage and active water leaks below grade; and sealing roof leaks is found in 6-page illustrated bulletin "Problems? Let Stonhard Materials Solve 'Em."

For more details circle NED-883 E4 on enclosed inquiry slip

BELT CONVEYOR IDLER NEEDS NO RE-LUBRICATION



SEALED BEARINGS HEART OF IDLER

The heart of Transall's Tran-Seal Belt Conveyor Idler is its precision ground, heavy duty ball bearing. Each bearing is protected by *4 service-proven* synthetic rubber seals. The bearing is permanently lubricated at the factory and never needs re-lubrication. For details, write TRANSALL, INC., 120 N. 11th St., Birmingham, Alabama.

Four seals keep lubrication in and dirt out. Sales Offices in Principal Cities.

120-F.

TRANSALL SECTIONAL BELT CONVEYOR SYSTEMS

For more details circle NED-884 E4 on enclosed inquiry slip

3 TYPES, 5 MODELS
10,000 AND 20,000-POUND CAPACITIES
Priced from $395.00

RITE-HITE ADJUSTABLE LOADING RAMPS

for greater loading dock efficiency

• EASY OPERATION. Due to precision counterbalancing, ramp can be lowered and raised with fingertip pressure.

• SAFETY TREAD AND CURBS. Give sure footing and traction for men and machines, prevent material handling trucks from running off edge of ramp.

• EASY OPERATION. Due to precision counterbalancing, ramp can be lowered and raised with fingertip pressure.

• NO OBSTRUCTION TO DOCK EDGE OR DOORS. In "up" position, ramp doesn't protrude beyond dock edge. Can be modified at no extra cost to provide clearance for overhead doors when ramp is raised.

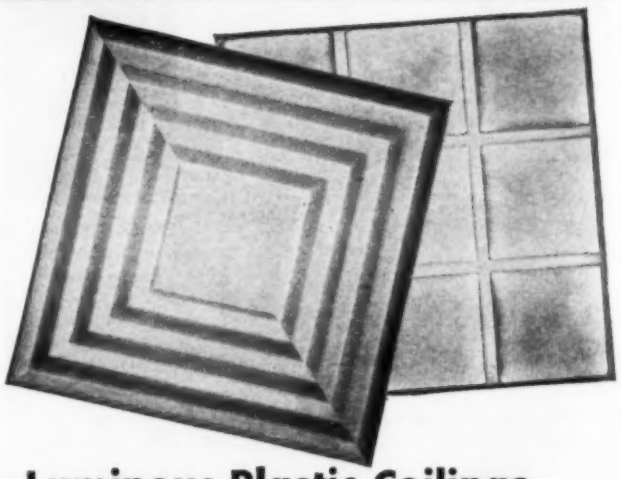
• HORIZONTAL ADJUSTMENT lines ramp up with truck, reduces truck maneuvering to a minimum.

• LOW INSTALLATION COST. Practically none in new construction, very little in existing construction.

RITE-HITE® DIVISION
LOOMIS MACHINE COMPANY
FOURTH AND PINE STS. • CLARE, MICH.

Send for details Dept. B-54

For more details circle NED-885 E4 on enclosed inquiry slip



Luminous Plastic Ceilings
Precise Plastic Slide Rules...

Show how Plastic Sheets fit varied jobs

New and better product ideas abound in the range of properties found in BAKELITE Rigid Vinyl Sheets.

For example, they make possible a wholly new concept in ceilings. These translucent plastic panels rest on supporting channels under fluorescent lamps. They diffuse the light to every corner. Glare softens, shadows fade. They can be deep-drawn to interesting designs that add a striking decorative effect.

Slide rules made with BAKELITE Rigid Vinyl Sheets utilize other properties of these materials. Low moisture absorption and dimensional stability mean accurate computations. They can be clearly printed with fine, precise calibrations. They resist perspiration, oil, and chemicals.

These features are just an indication of the product possibilities. BAKELITE Rigid Vinyl Sheets can be printed in four colors, then heat-formed into three-dimensional signs. Their toughness and flexibility make them perfect for comb bindings and packages. They can be used to package foodstuffs.

BAKELITE Rigid Vinyl Sheets come in several stock sizes and thicknesses. They are available in clear transparent and translucent, and opaque colors—clear, or in a range of colors. Surfaces may be matte, press-polished, or a combination of both.

Perhaps you can get a better product, or a new product, through the use of BAKELITE Rigid Vinyl Sheets.

For some successful ideas, and a description of properties, get your free copy of the booklet, "BAKELITE Rigid Vinyl Sheets." Write Dept. XB-8.

Be sure to visit BAKELITE's Exhibit, National Plastics Exposition, Public Auditorium, Cleveland, Ohio, June 7-10.

BAKELITE TRADE-MARK
RIGID VINYL SHEETS
TRADE MARK
BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
UCC
30 E. 42nd Street, New York 17, N.Y.

For more details circle NED-886 E4 on enclosed inquiry slip

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Floors causing you trouble . . . costing you money?

Get the facts about Tuff-Tex* Greaseproof Industrial Tile.

It combines greaseproofness, durability, resiliency and pleasant colors. With Tuff-Tex, plant interiors and even machine areas can have easy-to-clean, bright, colorful floors which are highly resistant to greases, oils, moisture and fire.

Tuff-Tex withstands heavy plant traffic and rolling friction. Provides a safe, sure-walking surface.

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*REG. U.S. PAT. OFF.

THE TILE-TEX DIVISION, The Flintkote Company, 1234 McKinley Street, Chicago Heights, Illinois
Tile-Tex—Pioneer Division, The Flintkote Company, P. O. Box 2218, Terminal Annex, Los Angeles 54, California
The Flintkote Company of Canada, Ltd., 30th Street, Long Branch, Toronto, Canada

TUFF-TEX GREASEPROOF INDUSTRIAL TILE

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Have YOU A Bending Problem?

Pipe, tube and structural bending is now simplified with a PEDRICK PRODUCTION BENDER. Heretofore difficult bends, such as offsets and off-plane bends, can now be made in production quantities at an amazingly low cost. ALL PEDRICK PRODUCTION BENDERS are complete with motor, and are equipped with automatic duplicate bending relays.

Write For Descriptive Folder Dept. 6

Prices start as low as $1575.00

(Motor and all Electrical Equipment included)

PEDRICK TOOL & MACHINE CO.
3640 N. Lawrence St. Philadelphia 40, Pa.

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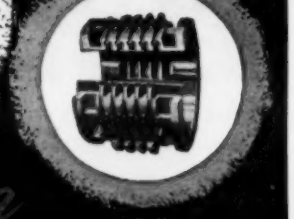
INSIST ON THE BEST...



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DUO-EQUALIZING EXPANSION JOINTS

Request Bulletin 351.

ZALLEA BROTHERS
818 LOCUST STREET
WILMINGTON 99, DELAWARE

WORLD'S LARGEST MANUFACTURER OF EXPANSION JOINTS

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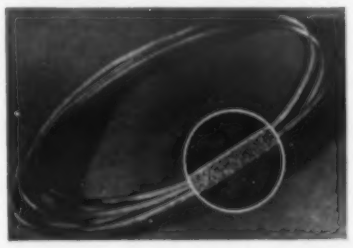
New Processes & Materials

CARBIDE POLISHING BELTS
nylon is impregnated with diamonds



Commercial diamond grit is embedded in extruded Du Pont nylon belts which are designed to speed and improve carbide drawing die polishing operations. Nylon provides a cushioning effect which prevents undue loss of grit and is exceedingly wear-resistant. Tests show that one belt will polish as many as 460 dies, with finishes as high as one-half micro-inch rms being obtained. Belts are also suitable for polishing other carbide articles such as rolls. Belts can be machined to any desired profile, can be washed without affecting the diamond bond and can be used with almost all coolants because of their corrosion resistance. They are available in five grades ranging from 100 mesh sieve to 1-5 microns. Standard widths of 75 and 104-in. continuous belts range from ⅛ to ⅜-in. Made by **Hartford Special Machinery Co.**, 289 Homestead Ave., Hartford 12, Conn.

▲ For more details circle NED-890 E4 on enclosed inquiry slip ▲

STRIPPERS & CLEANERS
for general industrial use

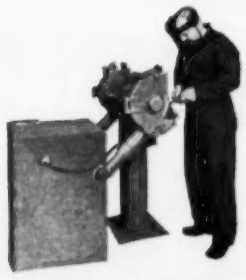
Rust removal, paint stripping, prepaint coating, general cleaning and spray gun cleaning are uses of five general industrial chemical compounds. Strippers include Formula A and Dip Strip. Former is a heavy-bodied noninflammable paint remover which will remove many coats of paint in one application, and latter is for use in cold tanks, having a water seal to prevent loss of active solvents by evaporation. Metal Treat, another of the compounds, removes and prevents rust before and after painting and provides good paint adhesion on all metals including galvanized steel. Spray gun cleaner removes hard and dried finishing materials as well as fresh paint, and Magic Cleaner cleans dirt and grease from any painted surface. Made by **Klean Strip Co.**, Dept. N, P. O. Box 3565, Memphis 6, Tenn.

▲ For more details circle NED-891 E4 on enclosed inquiry slip ▲

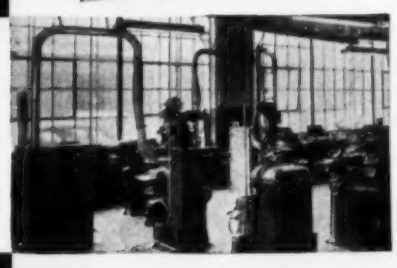
DO YOU KNOW? "Meet Brown & Sharpe" is a new sound-color motion picture that covers interesting highlights in the operations of a multiple-line precision machine tool and small tool builder. Film is available free for showing to engineering and civic groups. Write to Brown & Sharpe Mfg. Co., Dept. 43, Providence 1, R. I.

▲ For more details circle NED-892 E4 on enclosed inquiry slip ▲

FROM PEDESTAL GRINDERS



TO Complete Shop Installations



TORIT WILL SOLVE YOUR DUST PROBLEMS

Industrial dusts are dangerous. They can damage precision machines or finished parts, create bad working conditions, reduce employee efficiency, and increase your insurance rates.

Whether it's just a single pedestal grinder or a whole battery of cut-off, grinding and polishing machines, Torit Dust Collectors will solve your dust problem—do it efficiently, economically and with a minimum of interference to your production layout.

Standard Torit Dust Collectors fit most situations and special adaptations can be quickly created, write for full information.

See our catalog in MACHINE TOOL CATALOGS

TORIT Manufacturing Co.
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ST PAUL 2, MINN.

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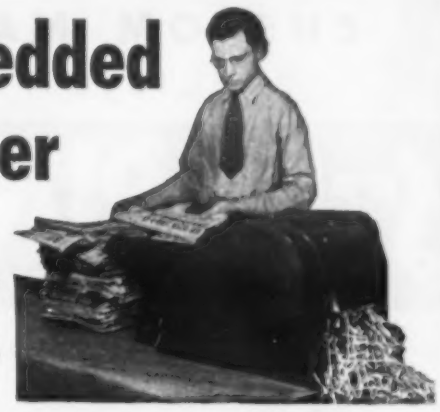

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Test a "Silver" paper shredder in your own shop without obligation—Get complete details by writing today to:

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Drill CONCRETE TILE CERAMICS GLASS GRANITE BRICK IN SECONDS with the

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Same type Truco diamond bits long used in mining and oil well drilling are now available for drilling holes ¼" to 6½" I.D. any depth. Truco Diamond Drill Bits in Truco Water Swivel can easily save entire cost on first application. For electricians, plumbers, carpenters, masons, tile setters, maintenance crews, etc. Booklet and price list by return mail. Write;

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CUSTOM MADE
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STAMPINGS
IN SMALL LOTS

Since 1921 we have specialized in the production of accurate die-cut metal stampings in small lots. The tool cost is low . . . actually as low as 15% to 20% of the cost of permanent tools. We guarantee dependable service and delivery on date specified.

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DAYTON ROGERS
Manufacturing Company
Minneapolis 7E, Minnesota

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ACCURATE
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MASONEILAN AIR
Reducing
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This sturdy combination provides clean air at accurate reduced pressures for a multitude of uses. Compact. Easy to install. Has large capacity . . . instant response. Extra-sturdy construction reduces maintenance to a minimum.
Initial pressures up to 250 lbs. Reduced pressure: 5-60 lbs., 60-100 lbs. Sizes ¼" to ½". Sold separately or in combination. Pressure gauge included.

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

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REGULATOR CO.
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NEW!
"Auto-tap" TRADE MARK
LEAD SCREW TAPPING HEAD
for Your Drill Press

New Features
★ Quick-change lead screw
★ New type 'V' clutch
★ Positive depth control
★ Positive-drive tap
Model 205 for #0 to 5/16" taps
Model 210 for 10-32 to 3/4"

The new Auto-Tap Head guarantees precision tapping, more production, and less spoilage with unskilled help.

Send for Details

Automatic Methods INC.
953 West Grand St., Elizabeth, N. J.

LEAD SCREW TAPPING HEADS and ATTACHMENTS

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New Literature & Catalogs

Pipe Machines, Drives & Accessories

Beaver Pipe Tools, Inc.—Features, dimensions, operating capacities, ordering specs, dies available and accessories for five pipe machines and power drives, plus the new 55 Universal nipple chuck are covered in 16-page "Power Machine Catalog." Models A, B and E pipe and bolt machines and D and C-1 portable power drives are described. Units handle up to 2-in. diameter pipe.

▲ For more details circle NED-900 E4 on enclosed inquiry slip ▲

Gages, Fixtures & Bushings

H. C. Clatfelter Co.—24-page catalog 54 on Micro-Lap precision gages, indication and gaging fixtures, and Acro-Grip adapter bushings serves to introduce this relatively new company and its precision products. In addition to listing standard products and their prices, brochure presents factual information about fixed gages. Tolerances are tabulated on plain cylindrical, progressive limit, long "go" and reversible plain plug gages.

▲ For more details circle NED-901 E4 on enclosed inquiry slip ▲

Masonry Waterproofing & Decorating

Prufcoat Laboratories, Inc.—Latest methods of protecting and decorating all types of masonry surfaces, including brick, asbestos shingle, concrete, cement block, stucco and cinder block with Prufcoat masonry finishes are given in 8-page brochure. Latest waterproofings such as Pruftite Light-Fast Clear, Heavy-Duty Clear and silicone formulations are described in addition to standard masonry paints.

▲ For more details circle NED-902 E4 on enclosed inquiry slip ▲

Pipe Fittings Catalog

Controlled quality seamless welding pipe fittings, forged ASA flanges, large diameter and TEMA flanges and screwed and socket welding fittings comprise items on which detailed dimensional data and specifications are offered in 304-page catalog 55. Technical data section of 56 pages has easy-to-use allowable stress and P/S tables, maximum allowable working pressure charts and other tables with latest provisions of piping codes and standards. Request on company letterhead from Ladish Co., Cudahy, Wis.

▲ For more details circle NED-903 E4 on enclosed inquiry slip ▲

Machine Tool Limit Switch

Square D Co.—Literature descriptive of class 9007 machine tool limit switches includes 4-page SM-239 which points up feature of 11 possible contact arrangements; three 4-page service bulletins descriptive of these heavy-duty, type T models; and a dimension sheet. Switches are generally used as pilot devices in control circuits of magnetic starters to govern starting, stopping and reversing of electric motors.

▲ For more details circle NED-904 E4 on enclosed inquiry slip ▲

hydro-line cylinders series "J"

conform to
J. I. C. standards
RUGGED . . .
Where it counts most!

CARTRIDGE . . . metallic rod-wiper, packing, bushing in one unit.
RUGGED BODY . . . all steel end caps and barrel.
PISTON RINGS . . . step-cut joint, long life, minimum leakage.
PRESSURE . . . 2,000 psi heavy-duty . . . 3,000 psi non-shock.
SIMPLICITY . . . no tie-rods . . . no retainer rings.

hydro-line Manufacturing Co.
5601 PIKE ROAD • ROCKFORD, ILLINOIS

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You can cut costs with these low-cost Peerless Packet Trolley Hoists too

Shipping & Receiving Departments, in all types of industry, are finding that Peerless Packet Trolley Hoists cut handling costs. In addition to ease of operation, these low-cost trolley hoists offer users economical maintenance, adjustability to a number of I-beam sizes, and a material saving in headroom. Ask your local Harrington distributor for detailed information. His name is listed in the classified telephone directory under "Hoists." Or write us for Bulletin P-5.

HARRINGTON PEERLESS HOISTS
THE HARRINGTON CO., 1650 W. Callowhill St., Phila. 30, Pa.
Makers of Hoists Since 1876

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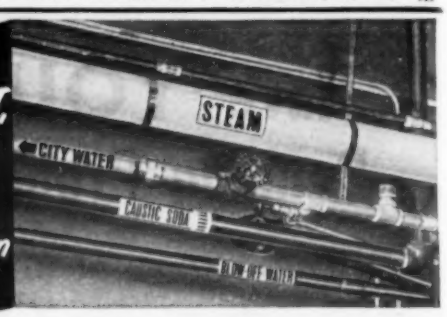
FASTER, LOWER COST, BETTER Pipe Identification with



Brady ALL-TEMPERATURE Pipe Markers

NEW...
STICK TO PIPES
300°F. HOT...
-300°F. COLD

It's more efficient, safer, thriftier to mark *what* flows *where*—with Brady self-sticking Pipe Markers. They stick—and *stay stuck* to pipes, at continous temperatures from −300° F. to +300° F. Off dispenser card in a hurry—on the pipe to *stay* and be *seen* . . . for real savings in material cost and application time. *Background color and legend-overprint combinations meet A.S.A. Standard A-13.* And Brady Markers are silicone plastic over-coated to stay clean, highly visible. Over 1000 stock markers—or we'll make any kind, with any legend, to your exact order! For *free* samples, useful literature, write—

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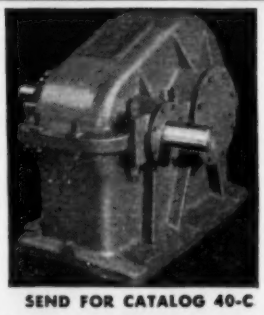
Established 1888

Continuous-tooth
HERRINGBONE GEAR
SPEED REDUCERS
The Gear With the Backbone

The operating efficiency and dependability of these reducers is continuous testimony to their design and inbuilt qualities of manufacture. They are made in single, double and triple reductions—come in many sizes and in a wide ratio and horsepower range.



SEND FOR CATALOG 40-C

D. O. JAMES GEAR MANUFACTURING CO.
1140 WEST MONROE STREET • CHICAGO 7, ILLINOIS

▲ For more details circle NED-908 E4 on enclosed inquiry slip ▲

3000 FINISHED WIRE LEADS per hour . . . automatically

- measured
- cut to length
- stripped one or both ends

with the

ARTOS CS-6 AUTOMATIC

FAST, FULLY AUTOMATIC production of finished wire leads can save you hundreds of dollars in time and labor. In the cutting and stripping of insulated wire, cord, cable, etc., up to No. 10 stranded or No. 12 solid, the ARTOS CS-6 gives you these advantages:

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- *Elimination of human error.*
- *Quick, easy set up.*
- *Reduction of work spoilage, no nicking of wire.*

WRITE FOR FREE BULLETIN. Get the complete story Ask for Bulletin 35-C.

Automatic Wire Cutting and Stripping

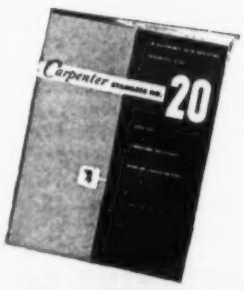
ARTOS ENGINEERING CO.

2751 S. 28th St. • Milwaukee 46, Wis.

For more details circle NED-909 E4 on enclosed inquiry slip

Trying to control Corrosion?

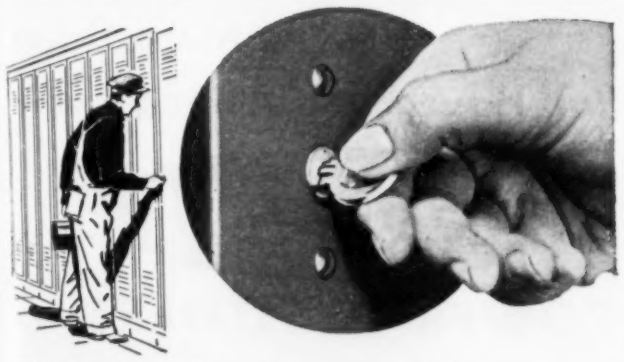
Use Carpenter Stainless No. 20—for Super Corrosion Control of H_2SO_4—HNO_3—H_3PO_4—and other severe corrodents.



Send for this book of information on analysis, corrosion resistance, fabricating characteristics, and physical properties, of all available forms of Carpenter Stainless No. 20—bars, strip, and wire (contact The Carpenter Steel Company, Reading, Pa.)—tubing, pipe, sheet, and plate, contact . . .

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.

For more details circle NED-910 E4 on enclosed inquiry slip



This is the secret of KEY-CONTROL

BERGER'S Revolutionary New Handle-Free Steel Locker

The key is the handle! It unlocks the door and serves as a handle for opening. The door *pre-locks* when key is removed, then locks *automatically* when shut. Users cannot "forget" to provide full-time locked protection for clothing, tools, personal effects.

Berger's *exclusive* Key-Control locker system eliminates handle maintenance expense. Locker fronts are flush and smooth, with no noise-inviting projections.

Your employees will appreciate this convenience feature. Write us for specifications and prices.

REPUBLIC STEEL CORPORATION
BERGER MANUFACTURING DIVISION
1084 Belden Ave., Canton 5, Ohio • Export Dept.: Chrysler Bldg., New York 17, N. Y.

For more details circle NED-911 E4 on enclosed inquiry slip

New Processes & Materials

PLASTIC FOAM MATERIALS thermosetting and readily machined

Available in a wide range of bulk densities, Eccofoam thermosetting plastic foam materials are low density, rigid and unicellular and are readily machined. They have a thin skin on their outer surfaces and are available in sheets or other desired shapes. Properties vary as a function of bulk density. With a bulk density of 10 lb per cubic foot, values include tensile and compressive strengths of 320 and 340 psi and modulus of elasticity of 11,000 psi. Materials have good thermal and electrical insulating properties and low water absorption. Made by **Emerson & Cuming, Inc.**, 869 Washington St., Canton, Mass.

For more details circle NED-912 E4 on enclosed inquiry slip

RUBBER-BASE FLOOR COATING is water and chemical resistant

A practical and economical floor protection and maintenance coating for all industrial application, rubber-base Pen-Kote 51 is resistant to water and chemicals. It is nonsaponifiable, long wearing, fast drying and highly decorative as well. Alkali and abrasion resistant materials have been combined in coating to give maximum protection to floors. Formulated by **Peninsular Chemical Products Co.**, Dept. NED, 6795 E. Nine Mile Rd., Van Dyke, Mich.

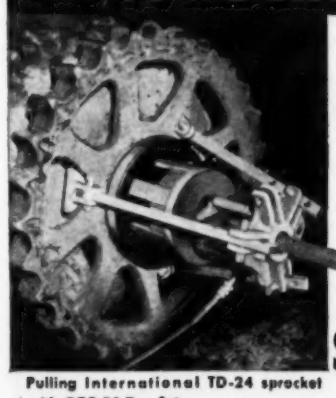
For more details circle NED-913 E4 on enclosed inquiry slip

PLASTIC TOOLING MATERIAL formulation provides easy mixing

Formulated to provide ease of mixing, L-930 metallic surface casting resin has wide variety of uses ranging from resurfacing metal dies and making core boxes and jig locator pads to use in laminated tool making. Hardener and resin are packaged in separate containers, added together before use and mixed for 5 minutes. Low viscosity when mixed gives easy pouring. Material hardens in 2 to 4 hours at room temperatures, is of metallic appearance and has good metal bonding properties. It is noncorrosive. Made by **Rezolin, Inc.**, 96th at Bellanca, Los Angeles 45, Calif.

For more details circle NED-914 E4 on enclosed inquiry slip

PULL SPROCKETS IN MINUTES



Pulling International TD-24 sprocket with OTC 50 Ton Set.

WITH THE **NEW OTC SPROCKET PULLER**

OTC 50 TON Hydraulic Ram with Adaptors pulls or installs on the job or in the shop.

SAVE TIME, LABOR . . . REDUCE "DOWN-TIME"

OTC 50 Ton POWER-TWIN Hydraulic Ram . . . used for hundreds of tough jobs including the above.

Now the costly job of pulling Crawler-Tractor sprockets can be done in minutes by one man. Manufacturers approved sets are available for, Caterpillar, Allis-Chalmers and International Harvester . . . or a Universal Set to fit all three. If you have a 50 Ton OTC Ram, you need only the adaptors . . . three types of pumps available.

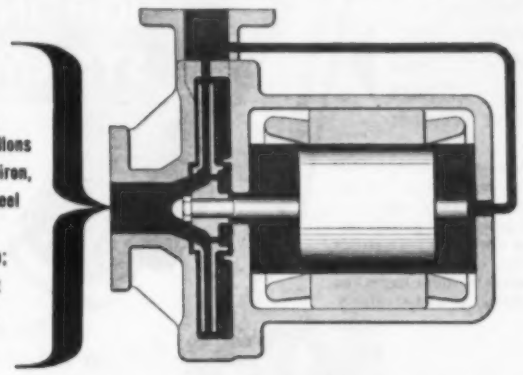
SEND FOR FREE FOLDER

OWATONNA TOOL COMPANY
436 Cedar Street • Owatonna, Minnesota

For more details circle NED-915 E4 on enclosed inquiry slip

Chempump

THE PUMP THAT CAN'T POSSIBLY LEAK
. . . no mechanical seals . . . no stuffing box



⅙ to 3 horsepower, 0 to 180 gallons per minute; iron, stainless steel or monel construction; prices start at $96.00.

Think of what this means when handling toxic, corrosive or expensive process fluids. Chempump, with its magnetically-driven enclosed rotor can work—and save—for you, too. It is performance-proved in over 6 years of field experience. Write for complete data.

CHEMPUMP CORPORATION
1304 EAST MERMAID LANE • PHILA. 18, PA.

For more details circle NED-916 E4 on enclosed inquiry slip

Don't Walk...

TALK!

The NEW Executone Intercom saves steps, increases output, cuts costs!

Compute the cost of time wasted by executives and employees running back and forth. *That's how much* the NEW Executone Intercom can save you! Your voice—with lighting speed—gets information, gives instructions. Every working hour becomes more productive for you and your employees. "Inside calls" no longer tie up telephone lines. Office and plant operate at a new peak of efficiency!

Years ahead of its time in operation and design!

Executone's exclusive "CHIME-MATIC"® Signalling announces calls by chime and signal light. Calls may be answered from across the room—yet privacy is assured. New switching circuits for every need make new savings possible. Voices are clearer, distinct, instantly recognizable. Inexpensive 2 station system easily expanded. It will pay you to get the whole story. Just mail the coupon.

Executone

COMMUNICATION & SOUND SYSTEMS

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415 Lexington Ave., New York 17, N. Y.

Without obligation, please let me have:

☐ The name of your local Distributor.
☐ Complete descriptive literature.

Name.....Title.....
Firm.....
Address.....City.....

In Canada—331 Bartlett Ave., Toronto

For more details circle NED-917 E4 on enclosed inquiry slip

New usalite

DUO-FLEX
Only Industrial Flashlight with Built-in DUAL LIGHTING SYSTEM!

Flexible Extension Probe Light PIN-POINTS Light Where You Want It

Extends 10½" beyond flashlight—reaches around corners, in deep recesses, through small clearances—gets into all hard-to-get-at dark spots inaccessible with ordinary flashlights. Ideal for close inspection of products and machinery.

No. DF-22 2 CELL
*REG. PAT. U.S. & CAN.

All These Extra Advantages!

Powerful fixt focus bulb and reflector throw 1,000 foot beam for long range lighting; red "danger zone" lens ring; heavy-walled plastic case; detachable end cap with spare bulbs and snap-back ring; 3-way safety switch.

Order Duo-Flex from your local distributor or write for descriptive sheet.

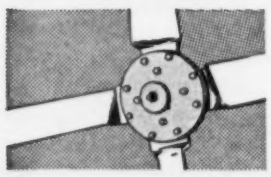
U. S. ELEC. MFG. CORP.
222 West 14th Street, New York 11

USALITE Flashlights and USALITE Leak-Proof Copper-Sealed Batteries

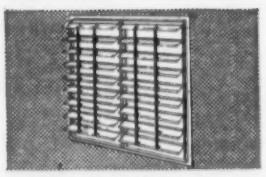
▲ For more details circle NED-919 E4 on enclosed inquiry slip ▲

SAVES YOU MONEY
on heavy-duty cooling

NEW ROBBINS & MYERS DIRECT DRIVE INDUSTRIAL FAN



Large Center Disc reduces re-entrance air loss. Blades are individually mounted—replaceable.



Automatic Shutters—Available for every size fan. Shutters open when fan is "on"; close when it's "off."

Here's extra cooling power per dollar! For as little as $160.00 (24" size) you get a powerful fan that will operate against medium resistance pressures! New "gull-wing" blades, combined with an improved air inlet, set new highs in efficiency. Easy to install at low cost.

Whatever your ventilating problem—industrial, commercial or military—mail the coupon! (For any ventilating problem not of a routine nature, write Mr. John Beattie, Ventilating and Cooling Engineer, 387 So. Front Street, Memphis 2, Tenn.)

R&M ROBBINS & MYERS FANS

Send for FREE BOOKLET!

ROBBINS & MYERS, INC., Fan Division ND-54
387 S. Front St., Memphis 2, Tenn.
Please send me your booklet, "Robbins & Myers Comfort Cooling and Ventilating," A.I.A. File No. 30-D-1.
Name.....
Address.....
City.....Zone....State.....

▲ For more details circle NED-920 E4 on enclosed inquiry slip ▲

New Literature & Catalogs

Electronic Temperature Control

Robertshaw-Fulton Controls Co., Fielden Instrument Div.—Series 97 electronic temperature control described in bulletin is applicable in production processes for electric, steam and hot water heaters; baths of all types; ovens, kilns and dryers; and plastic extrusion presses. Equipment is available for wide ranges in temperature.

▲ For more details circle NED-921 E4 on enclosed inquiry slip ▲

Clamps of All Types

Cincinnati Tool Co.—Selection and application information on all types of Load Tested clamps is offered in clamp catalog No. C-50.

▲ For more details circle NED-922 E4 on enclosed inquiry slip ▲

Woven Electric Heaters

Pre-Fab Heater Co.—Typical uses are illustrated and application data are presented for woven electric heaters in 4-page bulletin F-1548. They deliver heat with uniformity over large areas and are light in weight, thin, pliable and quick heating and cooling. Custom manufacture makes possible wide selection of shapes, sizes and ratings.

▲ For more details circle NED-923 E4 on enclosed inquiry slip ▲

Overhead Cranes

Ederer Engineering Co.—Specifications, construction details and component descriptions for Ederer industrial cranes are found in descriptive 30-page illustrated bulletin CR-610. Units are made with capacities from 3 to 100 tons with spans from 40 to 100 ft.

▲ For more details circle NED-924 E4 on enclosed inquiry slip ▲

Power Chucking Equipment

S-P Mfg. Corp.—Line of self-centering power chucks which feature cam and lever action are subject of illustrated 32-page catalog No. 105. Complete specifications for all units are given, including a new compensating power chuck which holds rough forgings and out-of-round pieces. Other sections cover rotating air cylinders, duplex cylinders, air valves, drill press and collet chucks and blank jaws.

▲ For more details circle NED-925 E4 on enclosed inquiry slip ▲

Contacts & Contact Assemblies

P. R. Mallory & Co., Contact Div.—A contact material selector guide is a feature of 60-page illustrated form 3-11. It contains descriptions of contact materials, their aplications and the advantages of each. Designed for easy reference, it also presents data which will assist the designer of contacts and contact assemblies. Many sketches, drawings, charts and tables are incorporated.

▲ For more details circle NED-926 E4 on enclosed inquiry slip ▲

Fact-filled folder on request . . . showing how economies in costs, labor and time are achieved with the GREEN ENGRAVER.

Routs Models
Profiles Engraves

Etching attachment and other special equipment for industrial uses are available.

Mark your own symbols, numbers, lettering, on your small parts, tools, identification and name plates . . . easily, simply, quickly . . . tracing from a master with the GREEN ENGRAVER.

Widely used in electronic and plastic fields, in machine tool shops and wherever permanent marking is needed. The GREEN ENGRAVER engraves equally well on metals, plastic, wood, hard rubber and glass.

Green Instrument Co. INCORPORATED
375 PUTNAM AVE., CAMBRIDGE, MASS.

▲ For more details circle NED-927 E4 on enclosed inquiry slip ▲

Progressive low cost handling . . .

with SHEEHAN STATIONARY METAL MESH BELT CONVEYORS
FOR FORGING and STAMPING PRESSES

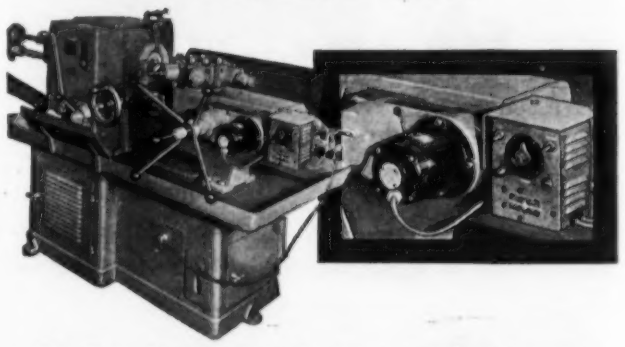
The illustration above shows a typical installation R. T. Sheehan Co. is accomplishing for leading industrial plants every day. Each Sheehan Conveyor is laid out to fit your particular needs. Outstanding feature is the exclusive Sheehan spike studded pulley . . . no slippage or adjustment of belt due to heat expansion. They last longer and are practically maintenance-free.

Write today for descriptive literature that tells how Sheehan may save you thousands of dollars with Sheehan progressive conveyor handling.

R. T. SHEEHAN CO. 8035 N. Territorial Rd. Plymouth, Michigan

▲ For more details circle NED-928 E4 on enclosed inquiry slip ▲

OSTER No. 601 "RAPIDUCTION"
Now Ready to Produce MORE at LESS Cost!



The Oster No. 601 Rapiduction, a simplified bar and chucking machine, is now equipped with electric-powered carriage feed to give you *higher* production at *lower* cost. A complete packaged unit, power feed is also ready for quick, easy installation on your 601 machines now in use.

Write us for complete information, and the name of your nearest Oster "Rapiduction" Distributor.

THE OSTER MANUFACTURING CO.
Main Office and Factory:
2066 East 61st St. • Cleveland 3, Ohio

Builders of High Quality Metal-Working Machinery Since 1893

▲ For more details circle NED-929 E4 on enclosed inquiry slip ▲

One More Thing You Have Been Asking For—

"Centre-Seal'd" POWER RECTIFIERS

The "outside" collector serves as a seal against paint and moisture penetration to the inside or center collector. This provides clean contact between the inside collector and plate surface — a near-zero resistance even after years of operation.

Write or call for complete information.

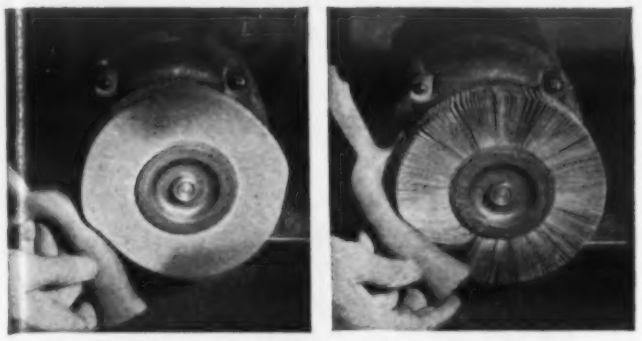
Sarkes Tarzian INC. RECTIFIER DIVISION
415 N. COLLEGE AVE., DEPT. W-2 BLOOMINGTON, IND.
In Canada—50 St. Clair Ave. N. W., Toronto

▲ For more details circle NED-930 E4 on enclosed inquiry slip ▲

GRIND-O-FLEX

the new flexible

GRINDING WHEEL



★ Removes burrs, flash, tool marks from irregular surfaces
★ Will not "flat" or dig into contoured shapes
★ Finishes metals, plastics; satin finishes stainless steel
★ Requires no special equipment, attaches to power tools
★ Safe and easy to use, requires no skill or experience
★ Comes in a wide variety of aluminum-oxide grits
★ See your Industrial Supply Dealer or write for catalog

MERIT PRODUCTS, INC.
4023 Irving Place, Culver City, California

Manufacturers of SAND-O-FLEX and GRIND-O-FLEX abrasive tools

For more details circle NED-931 E4 on enclosed inquiry slip

YOU CAN BE SURE... IF IT'S Westinghouse

FREE

to D-C motor users

HERE ARE TWENTY PAGES OF FACTS ON THE LIFE-LINE SK D-C MOTOR. THIS BOOK SHOWS WHY AND HOW NEW DEPENDABILITY HAS BEEN ADDED TO THE WELL-KNOWN SK... INCLUDES INFORMATION ON CONSTRUCTION, MOUNTING, TYPES OF ENCLOSURES, PERMISSIBLE MOTORS.

GET YOUR COPY FREE!

Simply mail a penny post card asking for a copy of Life-Line SK D-C Motor Booklet, B-4595. Address: Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.
J-21567

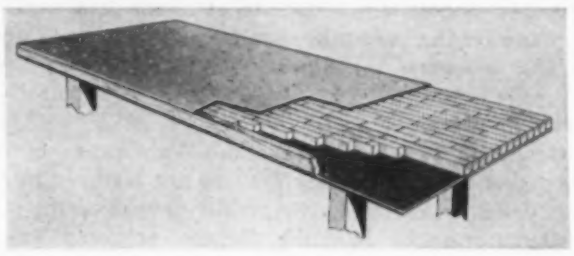
Westinghouse
Life-Line D-C Motors

For more details circle NED-932 E4 on enclosed inquiry slip

New Processes & Materials

BENCH TOPS
laminated composition construction

Available in standard and heavy duty thicknesses, CrafTop and ShopTop bench top materials are made



by facing kiln dried wood blocks with granulated wood material. Known as Resinwood, this material is bonded with phenolic resins and provides a durable surface harder than rock maple. It is also acid, oil and grease resistant, splinterproof and warpfree. Standard thicknesses of 1¼, 1¾, 2 and 2¼-in. are available. Standard widths are 24, 32, 36, and 48 in., and lengths range from 24 to 96 in. for single units. Any number of these units can be joined into a larger top and special thicknesses and sizes are available by quotation. Made by **Rock Island Millwork Co.,** Dept. C-2, Rock Island, Ill.

For more details circle NED-933 E4 on enclosed inquiry slip

UNDERGROUND FEEDER CABLE
in one, two and three-conductor type

Underground feeder cable designed for wiring in light industrial areas, storage yards and parking lots is designated Flamenol type UF and is easy to handle and install because of its light weight. It is available with one, two, or three conductors and is recommended for installation in accordance with Article 339 of the National Electrical Code. Single conductor cable is available in sizes 14 through 4 AWG and is UL listed as type UF. Two and three-conductor cables are available in sizes 14, 12, and 10 AWG and are UL listed as type UF and type NMC. Made by **General Electric Co.,** Construction Materials Div., 1285 Boston Ave., Bridgeport 2, Conn.

For more details circle NED-934 E4 on enclosed inquiry slip

RUST PREVENTIVE
penetrates rusted surfaces

After wire brushing to remove loose rust, paint and dust, Rust-Sele fish-oil base rust preventive can be applied directly to the rusted surface. The elastic weather-resisting coating seals out moisture, making it suitable for use in both fresh and salt water service. Oil penetrates through rust to prime metal, sealing the surface to halt further oxidation. Two basic types are available: "long-oil" for exterior one-application service and "short-oil" for interior use. Former type resists rain, snow, sun, temperature extremes and corroding action of fumes, gases and smoke. Interior type is fast drying. Both are available in 24 colors, including white, aluminum and black. They withstand temperatures up to 450° F. Made by **Rust-Sele Co.,** 9806 Meech Ave., Cleveland 5, O.

For more details circle NED-935 E4 on enclosed inquiry slip

ELECTRIC CONTACT CLEANER
is also lubricant

Spra-Kleen is a noise-preventing chemical which can be used as an electrical contact cleaner and lubricant. It is usable on all contacts, relays, switches, controls and other moving parts. Chemical is released under pressure and has a directional nozzle, making remote parts easy to reach. Made by **General Cement Mfg. Co.,** Dept. NED, 919 Taylor Ave., Rockford, Ill.

For more details circle NED-936 E4 on enclosed inquiry slip

COLONIAL CUTTING PADS

CUT COSTS FOUR WAYS

COLONIAL CUTTING PADS can save you money in four ways—

1. They reduce die wear and breakage
2. They reduce rejects
3. They're usable on both sides
4. They're returnable—after full use—for generous credit.

Made of tough, "self-healing," non-oxidizing TYGON plastic, COLONIAL Cutting Pads are clean, dustless, and long wearing. They reduce rejects caused by dirt and dust or by double cutting due to "bounce back." They are widely used in the accurate machine or hand die-cutting of rubber, leather, plastics, cork, candy, paper, fabrics, foils, or light gauge metals. They are available in 2 hardnesses (Standard and Extra Hard) and in 9 standard sizes: 40"x40"x1", 40"x40"x¾", 20"x40"x1", 20"x40"x¾", 20"x20"x⅜", 20"x20"x¼", 20"x20"x⅛", 18"x36"x1", 8"x36"x¾".

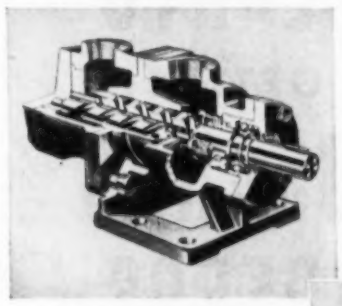
Write, right now, for full information and prices

COLONIAL RUBBER CO.
RAVENNA, OHIO

For more details circle NED-937 E4 on enclosed inquiry slip

DE LAVAL

manufactures wide range line of IMO Pumps and Worm Gearing



Unique De Laval IMO Pumps are quiet, pulsation-free, compact and designed for direct-connecting high speed operation. Send for Bulletin LG-B showing wide range IMO line.

De Laval Worm Gear Sets are available in 3:1 to 100:1 ratios, fractional .1 to 550 horsepower and 3" to 36" center distances. Send for comprehensive Catalog 5000.

DE LAVAL STEAM TURBINE COMPANY
808 Nottingham Way, Trenton 2, New Jersey

DL231A
For more details circle NED-938 E4 on enclosed inquiry slip

FASTER... EASIER

PRECISION DEW POINT INDICATOR

★ The Alnor is the only dew point indicator that is a complete unit in itself...it is readily portable and does not require external coolants or auxiliary apparatus.
★ Controlled testing conditions are assured. Indications take place in an enclosed chamber... dew or fog is observed suspended in air—not on a polished surface. This means greater accuracy, faster reading—every time.
★ Simple, direct operation of the Alnor Dewpointer assures laboratory accuracy by non-technical personnel. Substantial carrying case protects it against the usual hazards of portable use.
★ Available in three ranges—for dew points between minus 20 deg. F. and room temperatures, from minus 80 deg. F. to 0 deg. F., and from -80 deg. F. to room temperature.

Write for Descriptive Bulletins. Illinois Testing Laboratories, Room 529, 420 N. La Salle St., Chicago 10, Ill.

Alnor
PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-939 E4 on enclosed inquiry slip

TWO-WAY PROTECTION THAT MULTIPLIES TIP LIFE 2-3 TIMES

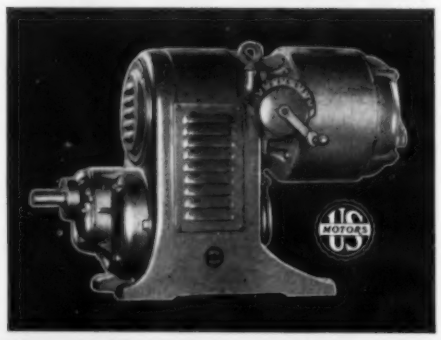
Torchweld "75" Cutting Torch features add up to better performance, longer life, and reduced operating costs. And now here's a feature that increases Torchweld value again. "75" Cutting Tips are now packaged in protective plastic containers. Not so much for safety in shipping—but as an "invite" to the operator TO RETURN THE TIP TO THE CONTAINER when it is not in use. This will keep the fine-fihished surfaces protected from grit and dirt, from careless handling . . . will multiply tip's useful life 2 to 3 times over. In addition, two NCG tip cleaners are packed with each tip for proper cleaning of preheat and high pressure oxygen passages. Another measure to greatly lengthen useful tip life. Compare Torchweld "75" with any cutting torch you have used before. Contact dealer, district office or home office for demonstration.

Copyright 1954, National Cylinder Gas Company

NCG® NATIONAL CYLINDER GAS COMPANY
840 N. Michigan Ave., Chicago 11, Illinois

For more details circle NED-941 E4 on enclosed inquiry slip

THOUSANDS OF PLANTS NOW GETTING THOUSANDS OF SPEEDS



Miracle Motor

ANY RPM BY DIAL CONTROL

Get more production out of your present machines by powering them with U. S. Varidrive motors. No extra space required. Thousands of plants are profiting with this miracle motor. Turning a simple control handle changes speed of the Varidrive to any desired r.p.m. in ratios up to 10:1. Operators can instantly select the speed best suited for the work.

ALL-IN-ONE PACKAGE

Occupies little more space than a single speed motor. ¼ to 50 hp, 2 to 10,000 r.p.m.

U.S. VARIDRIVE

Mail Coupon for 16-pg. Booklet

REQUEST FOR VARIDRIVE BOOKLET

U. S. ELECTRICAL MOTORS Inc. NED-5
Box 2058, Los Angeles 54, Calif. or Milford, Conn.

NAME_____
COMPANY_____
ADDRESS_____
CITY_____ZONE____STATE_____

For more details circle NED-942 E4 on enclosed inquiry slip

New Literature & Catalogs

Hydro-Mechanical Devices

Pathon Mfg. Co.—Line of hydro-mechanical devices cataloged in 32-page bulletin No. 22 includes oil hydraulic cylinders and hydraulic directional control valves. Complete information is given on various cylinder models which operate at either 2000 or 1000 psi, and on the valves in capacities from 1 to 48 gpm.

For more details circle NED-943 E4 on enclosed inquiry slip

Dock Fenders

Goodyear Tire & Rubber Co.—Wide range of applications for rubber dock fenders are pictured in 12-page booklet A5109-K. Originally developed for protection of docks handling largest seagoing ships, many industrial uses, as on truck loading docks, are being developed. Rubber fenders resist force of 100,000 lb per foot of length and recover original shape without damage.

For more details circle NED-944 E4 on enclosed inquiry slip

Snap Action Switches

Acro Mfg. Co.—36-page catalog on precision snap action switches offers specifications, dimensions and operating characteristics for two lines. These include Acro switches which operate by rolling spring principle and Mu switches which employ single, prestressed blade principle. Quick-Finder index allows quick location of proper switch for any application by type, size and rating.

For more details circle NED-945 E4 on enclosed inquiry slip

Beryllium Copper Springs

Instrument Specialties Co.—16-page catalog 8 and 8-page catalog 8A respectively describe micro-processed springs and standard spring components, all made of beryllium copper. Former illustrates springs used in electrical and mechanical applications, giving physical properties and helpful suggestions on spring design. Latter piece covers components used in electronics industry.

For more details circle NED-946 E4 on enclosed inquiry slip

Equipment for Industry

Worthington Corp.—Information relative to special features, types, sizes and capacities of company's various product lines of industrial equipment is provided in 16-page WP-1099-B61. Illustrations are representative of how products are applied in different types of industry. Products include refrigeration units, compressors, diesel engines, steam power plant equipment, water conditioners, centrifugal and rotary pumps.

For more details circle NED-947 E4 on enclosed inquiry slip

Free-Cutting Taps

Reiff & Nestor Co.—20-page illustrated catalog-price list No. 10 provides complete data regarding size, threads and flutes for standard and special free-cutting taps. Sections describe methods by which taps are produced to assure long life and quality control procdures maintained in the lab and in production to assure uniformity.

For more details circle NED-948 E4 on enclosed inquiry slip

Industrial Plastics

Joseph T. Ryerson & Son, Inc. — Manufacture, grades, properties, fabrication and use of laminated plastic sheets, tubes, rods and special shapes are covered by data presented in 16-page illustrated bulletin S-1-20-4. Company's plan for plastic products development and production, information on decorative sheets and performance of plastic bearings in industrial and marine service are included.

For more details circle NED-949 E4 on enclosed inquiry slip

Beryllium Copper Tubing

Superior Tube Co.—Consisting of nine sheets, data memorandum No. 7-2 presents properties, applications and advantages of seamless and drawn beryllium copper tubing. Alloy shows strength and hardness, and possesses wear resistance and good electrical conductivity. Heat treating and other fabrication procedures are dealt with in detail.

For more details circle NED-950 E4 on enclosed inquiry slip

Industrial Diamonds

Industrial Diamond Association of America, Inc.—"The Diamond That Pays For Itself" is title of 20-page illustrated booklet that gives general background concerning properties of diamond products used in industry. Special emphasis is given to use in various types of machining.

For more details circle NED-951 E4 on enclosed inquiry slip

BROWNHOIST BUILDS BETTER BUCKETS

● BUY DIRECT FROM FACTORY FOR LESS

● ROPE REEVE, POWER WHEEL LINK TYPE

● WRITE FOR CATALOG

INDUSTRIAL BROWNHOIST CORP.
BAY CITY, MICHIGAN

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For more details circle NED-952 E4 on enclosed inquiry slip

modernize materials handling with

CARGOTAINERS®

Cargotainers are designed to keep pace with modern methods of materials-handling because they are: 1. Sturdy and resistant to shock; 2. Readily folded when not in use; 3. Open mesh so that contents may easily be seen for quick inventory; 4. Efficiently designed for shipment, assembly line use, and vertical storage. Write for information concerning the new CLEARVIEW model with its exclusive base construction for greater durability and better locking and stacking. Dept. NED, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh Steel Products Company
A Subsidiary of Pittsburgh Steel Company

For more details circle NED-953 E4 on enclosed inquiry slip

BIDDLE CORONA TESTING EQUIPMENT

. . . for Non-Destructive Evaluation of Electrical Insulation

Safety, Simplicity, and Reliability have been engineered into Biddle Corona Test Sets to such a degree that operation by engineering personnel is not required. Two models available. Model 1 (illustrated)—.75 KVA, 20 KV continuously or 1.5 KVA for intermittent duty. Also available with a larger control unit with a rating of 2 KVA continuous and 5 KVA intermittent duty. Model 2—Rated up to 10 KVA, 35 KV continuously or 20 KVA intermittent duty.

Write for BULLETIN 66-D

B-400

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-954 E4 on enclosed inquiry slip

New BORG MICROPOTS

The new standard for Precision Multiturn Potentiometers . . . Eliminates the necessity for special designs.

Models Available for Test and Evaluation

SERIES 901-903 TEN-TURN POTENTIOMETERS

Model No. 902BB Bushing Mount at Both Ends

Designed for utmost versatility and adaptability. New standard Borg Micropots are available in single or double shaft models with exceptionally rigid Servo-mount or bushing-mount at either or both ends.

SERIES 931-935 THREE-TURN POTENTIOMETERS

Model No. 935SS Servo Mount at Both Ends

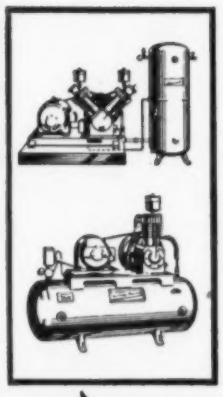
WRITE TODAY FOR COMPLETE INFORMATION

BORG EQUIPMENT DIVISION
THE GEORGE W. BORG CORPORATION
JANESVILLE, WISCONSIN

▲ For more details circle NED-955 E4 on enclosed inquiry slip ▲

MORE FREE AIR PER HORSEPOWER

Kellogg-American



AIR COMPRESSOR PUMPS, ½ TO 20 HP
Engineered and precision built to give more *free air* (actual air delivered) per hp, Kellogg-American compressors assure maximum air delivery, efficiency and service life. Single or two stage, 1, 2 or 4-cylinder units available for pressures up to 200 psi; displacements to 105.9 c. f. m.

COMPLETE AIR COMPRESSORS, ½ TO 20 HP
Portable or stationary; skid, remote tank or tank mounted; electric motor or gas-engine-driven models permit you to select the most efficient, economical compressor for every job. Write Dept. ND-1 for Bulletin K-307.

FREE — New slip-stick selector to help determine the right Kellogg-American air compressors for your needs. Send for yours on company letterhead today.

KELLOGG DIVISION
ROCHESTER 9, N. Y.

AMERICAN Brake Shoe COMPANY

Kellogg-American

½-20 H P AIR COMPRESSORS · PAINT SPRAY EQUIPMENT

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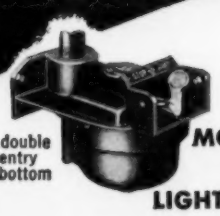
PUSH BUTTONS

Type J available single, double, multi-unit styles



Type EO double conduit entry top and bottom

FOR AUTOMATIC MOTOR STARTERS . . . CONTROLLERS . . . LIGHTING CIRCUITS, ETC.

Type EO conduit entry top only

EC&M provides a complete line of oil-immersed and air-break . . . "momentary" and "maintained" style push buttons.

The "momentary" style circuit is made or broken only as long as the operator's finger keeps the button depressed. The "maintained" style holds the circuits open or closed and this unit will also remain in "start" position even during under-voltage conditions or power failure.

Push button units by EC&M meet every industrial need for safe dependable starting and stopping.

Vapor proof enclosure

Write for literature today

1930
THE ELECTRIC CONTROLLER & MFG. CO.
2698 EAST 79th STREET • CLEVELAND 4, OHIO

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New Processes & Materials

THIN WALL STAINLESS TUBING in outside diameters from 1 to 6 in.

Where corrosion resistance, light weight and special shapes or bends may be required, Flexon thin wall stainless steel tubing in standard and high strength types is highly practical. Standard straight wall tube is available in 15 outside diameters from 1 to 6-in. while high strength tube is offered in 13 diameters from 1½ to 6 in. All but smaller sizes are available in four wall thicknesses designed to withstand various pressures. Shaped parts are formed from single pieces of tubing. Fittings and component parts can be attached to the straight or flexible tubing by resistance circumferential seam welding. Made by **Flexonics Corp.**, 1343 S. Third Ave., Maywood, Ill.

▲ For more details circle NED-958 E4 on enclosed inquiry slip ▲

SILICONE RUBBER vulcanizes at room temperature

Illustration shows such components as resistors, toggle switches and rectifiers which are protected from moisture, vibration and high temperatures by a coating of RTV Silastic silicone rubber. Product is formulated to vulcanize at room temperature after its two separately shipped components, each containing a catalyst, are mixed in equal parts by weight. Material sets in 4 hours, cures in 24 hours, and develops optimum stability, water repellency and chemical resistance in 4 to 7 days. It also has good dielectric strength. If desired, curing process can be speeded by application of heat and/or pressure. In addition to use for encapsulation it can be used as cloth coating dope, caulking material, or casting compound for flexible molds. Made by **Dow Corning Corp.**, Dept. IS, P. O. Box 592, Midland, Mich.

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SYNTHETIC RUBBER COMPOUND suitable for making O-ring seals

Synthetic rubber compound No. 1120 is suitable for use in O-rings to seal aviation type fuels under pressure conditions up to 1500 psi over a temperature range of approximately −65 to 160° F. Material has high low-temperature flexibility and rapidly recovers from a shrunken condition to one of positive compression in nonaromatic fuel. It does not stick, stain or pit metal. Volume change is moderate in iso-octane but high in aromatic fuels. In flushing fluids, such as MIL-0-6081, volume change is ±5 per cent. Made by **Goshen Rubber Co.**, Dept. NED-1, Goshen, Ind.

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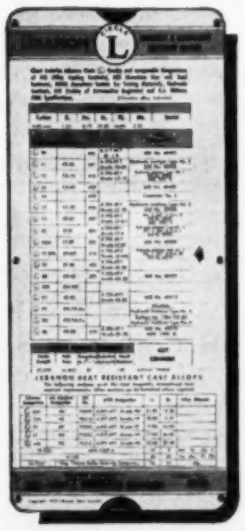
SLIDE CHART for steel casting material selection



Facts aiding steel casting material selection are provided by Circle L slide chart, which contains reference data on 19 carbon and low alloy and 17 stainless and corrosion-resistant grades. Chart is adjusted to grade under consideration in slide rule fashion and nominal analyses, mechanical properties and heat treatment are read off. Chart also provides comparable ACI, AISI, ASTM, SAE, military, Federal and Hydraulic Institute designations where applicable. Similar reference facts are also provided for eight different heat resistant cast steel alloys. Chart is available free from **Lebanon Steel Foundry**, 99 Lehman St., Lebanon, Pa.

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For Safety's Sake . . .

DAV-SON

FLASHING SAFETY DIRECTOR

Easier to Read—Easier to Change

Flashing Dav-Son Safety Director for plant safety. Traffic light red, green spots flash "SAFETY FIRST." Color, motion, light compel attention. Only Dav-Son has *changeable letter* design with removable panel for frequent quick-change message. Say what you want when you want. 98 3½" red and 250 1⅞" black acetate letters in compartment box inc. Size 18½x29x6. 110-120 volts, AC-DC. **$39.75**

Insist on genuine self-sealing cork back bulletin boards with hardwood frames. Many sizes to choose from. With or without glass doors. Also with metal frames for inside or outside use.

Solve employee communication problems with DAV-SON bulletin boards. World's largest selection. 100 different styles and sizes. Write today for complete information.
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PORTRAIT OF PRECISION

We make a big thing out of small parts because we know that your product's performance depends on even its smallest and least expensive parts.

Automatic machinery of our own design produces over 10 million pieces like these *each day* . . . to customers' exact specifications of dimension, concentricity, temper, hardness and finish . . . in *any* metal.

Almost 90 years of precision metal-working experience enables us to produce your small parts *faster, better, and for less* than you can make them yourself.

Our quotation costs you nothing—*may save you plenty!* Send us a sample part, a blueprint, or sketch and a letter outlining your requirements. We are sure that our terms will be welcome news. We will be glad to send you our Condensed Catalog showing many more parts we can produce for you.

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Specialties Division
808 Field Street, Torrington, Conn.

TORRINGTON SPECIAL METAL PARTS

Makers of Torrington Needle Bearings

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Complete Catalog mailed on request.

Ideal for counting objects of irregular size or shape, objects too small or too light to operate a switch, freshly painted or hot objects, fresh food, etc.

Factory-adjusted and wired for plug-in connection to lighting outlet. (Also furnished for permanent connection.) Requires no technical skill.

Includes rugged, heavy duty Wizard Electric Counter, also rugged, industrial quality Actuator and Light Source housed in cast aluminum cases with adjustable mounting brackets.

Ask your PIC representative or send for literature.

PRODUCTION INSTRUMENT COMPANY
700-12 W. Jackson Blvd., Chicago 6, Ill.

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Are You Looking For A Valve to Stand Services Like These ?

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ROCKWELL!

Take a quick look at these services:

ACETIC ACID	LINSEED OIL
ALCOHOL	LYE
AMMONIA	NAPHTHALENE
BEER	PHENOL
BUTANE	SODIUM CHLORIDE
CARBON DIOXIDE	STYRENE
FREON	SULPHURIC ACID
GAS	TAR
GLYCERINE	VEGETABLE OILS
LACQUER	WATER

These and dozens of other industrial services are readily controlled by Rockwell-Nordstrom lubricant-sealed valves. These valves use lubricant, not only for easier turning and longer life free from abrasion, but also as a leak-proof seal. Write for catalog with service recommendations. All sizes, for any piping arrangement, iron, steel and corrosion-resistant alloys.

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Please send me Rockwell-Nordstrom Valve Catalog V-217
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Company_____
Street_____
City_____ Zone_____ State_____

Canadian Licensee: Peacock Brothers Limited

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New Literature & Catalogs

Power Press Brakes

Airtherm Mfg. Co.—Six series of Metalworker power press brakes for sheet metal and plate have their specifications presented in this 16-page booklet. Photos and text show many applications possible with various dies.

▲ For more details circle NED-967 E4 on enclosed inquiry slip ▲

Clutchless Lift Truck

Clark Equipment Co.—Design, operation and maintenance of the clutchless Hydratork drive for Clark industrial lift trucks are covered in this 8-page illustrated brochure. Cutaway working photos and details of assembly and disassembly of the drive are included. Operational advantages of the drive are discussed.

▲ For more details circle NED-968 E4 on enclosed inquiry slip ▲

Electric Impact Tool

Black & Webster, Inc.—Much general information on a line of solenoid operated production tools and their accessories can be found in 8-page illustrated form 38. Machines covered are Electropunch, Electropunch Jr., heavy duty Electropunch; Electrostake; and Electropress. Typical applications are shown.

▲ For more details circle NED-969 E4 on enclosed inquiry slip ▲

Faucets, Fixtures, Valves

Central Brass Mfg. Co.—Photos and prices for complete line of brass faucets, fixtures and valves are found in 24-page catalog A-54. Included are bubblers; various types of faucets; needle, soft and hard seat, whistle and relief valves; air regulators; ball cocks; and glass fillers.

▲ For more details circle NED-970 E4 on enclosed inquiry slip ▲

Indicating Recorder

Thermo Electric Co.—Both potentiometer pyrometer and resistance thermometer type indicating-recorder is described and illustrated in 8-page bulletin 60. Instrument records temperature in 19 standard ranges from −100-100° to 0-3000° F. It is also used to measure humidity, solution conductivity, speed, pH, direct current, dc voltage, power and strain.

▲ For more details circle NED-971 E4 on enclosed inquiry slip ▲

Plastic Tubing & Pipe

Youngstown Steel Products Co. — Physical and chemical data, plus series of photos showing application are provided in 8-page bulletin on "Fibercast Tubing and Line Pipe." Tubing is offered in three sizes from 2⅞ to 4½ in. and pipe in six sizes from 2⅞ to 4½ in. Operating temperature range is from −65 to 130° F.

▲ For more details circle NED-972 E4 on enclosed inquiry slip ▲

Thermistors

General Electric Co., Carboloy Dept.—52-page publication TH-13 discusses what Thermistors are, how they are applied, functions they perform and what benefits are to be derived from them in detecting and compensating temperatures and providing time delay or surge control in electrical quipment. Static volt-ampere and dynamic characteristic curves are provided.

▲ For more details circle NED-973 E4 on enclosed inquiry slip ▲

Steam Traps

V. D. Anderson Co., Steam Specialties Div.—Super-Silvertop steam traps are subject of descriptive 4-page condensed bulletin 154 which gives complete information as to construction, capacities, pressures, weights and list prices. Steel series of traps capable of withstanding steam pressures up to 700 psi and 800° F total temperature, are covered as well. Technical data are also given on pressure regulating valves and metering devices, liquid and gas lines, steam traps and air tools, spray head and oil burners, solvent stills and pumps.

▲ For more details circle NED-974 E4 on enclosed inquiry slip ▲

pH Control in Industry

Beckman Instruments, Inc.—An informative report on the role of automatic pH control in industry is offered in form of 12-page brochure 340. Water treatment, control of chemical reactions and waste disposal areas are considered. Diagrams and sketches cover typical installations for variety of processes, and separate section on chemical reactions is included.

▲ For more details circle NED-975 E4 on enclosed inquiry slip ▲

FREE INSECT CONTROL MANUAL

Explains Modern Insecticides

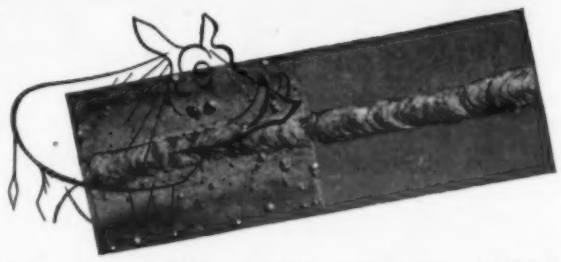
This valuable 36-page booklet covers every phase of controlling industrial and institutional insect infestation, from identification of insects to choice of the best insecticide and best type dispensing equipment for each insect problem. Sixty of the worst insect offenders are pictured, with data on habitat, kind of damage, identifying characteristics, life stages and cycles, reproduction rate, special characteristics, and best methods of control.

The booklet is packed with facts and information gathered during years of laboratory and field work by the specialists of the West Disinfecting Company. It tells how any building can be made virtually insect-free at extremely low cost by today's more efficient methods and products.

Read casually, this book is an education. Read more closely, it can be a powerful tool for increasing efficiency and savings in any plant with an insect problem. Published by the West Disinfecting Company, Dept. 16, 42-16 West Street, Long Island City 1, N. Y.

Adv.

▲ For more details circle NED-976 E4 on enclosed inquiry slip ▲



WELDS LOOK LIKE WART HOGS?

GET PROTECT-O-METAL. Weld spatter simply cannot penetrate Protect-O-Metal—never gets a chance to make your welds look like wart hogs. Just brush or spray P.O.M. on weld area and adjacent surfaces, weld at once, then see how easily all "spatter warts" wipe off with a dry cloth. P.O.M. No. 2 causes no smoke, fumes, or odors; is non-flammable and non-toxic. One coat serves for single or multi-pass welds, costs about 1/10c per foot, saves up to 85% of weld cleaning labor. Order a trial gallon today. Satisfaction guaranteed.

PROTECT-O-METAL
POM
G.W.SMITH

G. W. SMITH & SONS, INC., 5406 Kemp Road, Dayton, O.

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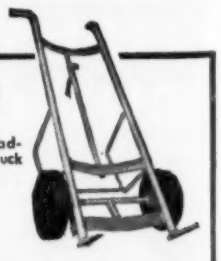
Bond Universal Lift Jack and Platform



Bond Self Load-Unload Drum Truck

Best for Materials Handling

Bond

PRODUCTION BUILDERS

Speed your materials handling with Bond equipment. Bond casters, lift jacks and hand trucks build more efficient production... make it faster, easier, more profitable. And all Bond equipment is rugged, dependable ... built for years of trouble-free service.

See your industrial distributor . . . use his qualified services in selecting, and maintaining the *right* Bond equipment for your jobs. Write for your copy of Bond Catalog K-38.

36-A Series—Double Ball Race Swivel Caster

1-A Series—Stationary Caster

BOND FOUNDRY & MACHINE CO.
Manheim, Pa.

▲ For more details circle NED-978 E4 on enclosed inquiry slip ▲

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To obtain additional information on any items in this issue of NEW EQUIPMENT DIGEST, circle numbers below which correspond with those of the desired items. Your request will be forwarded promptly to the manufacturer. Please give your name, title, company and address. This postage-free mailer should be folded as indicated for mailing.

	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150
1	51	101	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1101	1151
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6	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	856	906	956	1006	1056	1106	1156
7	57	107	157	207	257	307	357	407	457	507	557	607	657	707	757	807	857	907	957	1007	1057	1107	1157
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15	65	115	165	215	265	315	365	415	465	515	565	615	665	715	765	815	865	915	965	1015	1065	1115	1165
16	66	116	166	216	266	316	366	416	466	516	566	616	666	716	766	816	866	916	966	1016	1066	1116	1166
17	67	117	167	217	267	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167
18	68	118	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168
19	69	119	169	219	269	319	369	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169

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20	70	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170
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25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775	825	875	925	975	1025	1075	1125	1175
26	76	126	176	226	276	326	376	426	476	526	576	626	676	726	776	826	876	926	976	1026	1076	1126	1176
27	77	127	177	227	277	327	377	427	477	527	577	627	677	727	777	827	877	927	977	1027	1077	1127	1177
28	78	128	178	228	278	328	378	428	478	528	578	628	678	728	778	828	878	928	978	1028	1078	1128	1178
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30	80	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180
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42	92	142	192	242	292	342	392	442	492	542	592	642	692	742	792	842	892	942	992	1042	1092	1142	1192
43	93	143	193	243	293	343	393	443	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193
44	94	144	194	244	294	344	394	444	494	544	594	644	694	744	794	844	894	944	994	1044	1094	1144	1194

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45	95	145	195	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195
46	96	146	196	246	296	346	396	446	496	546	596	646	696	746	796	846	896	946	996	1046	1096	1146	1196
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49	99	149	199	249	299	349	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199

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E-4

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE.....

Principal Products Manufactured .....

..... Approx. Number of Employees in Plant .....

Check Invested Capital Rating of Your Company

- ☐ Over $1,000,000
- ☐ $500,000 to $1,000,000
- ☐ $200,000 to $500,000
- ☐ $75,000 to $200,000
- ☐ Under $75,000

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STACKPOLE Seal RINGS

Molded from carbon-graphite materials specifically balanced to match your specific requirements. All shapes and sizes. New oil seal grades that greatly minimize pitting and blistering. Send details of your application for recommendation by Stackpole engineers.

STACKPOLE

STACKPOLE CARBON COMPANY, St. Marys, Pa.

"EVERYTHING IN CARBON BUT DIAMONDS!"

For more details circle NED-979 E4 on enclosed inquiry slip

Randall EXCLUSIVE FORMULA GRAPHITED BRONZE BUSHINGS

... FOR ASSURED LUBRICATION

When bearings are subject to neglect, hard to lubricate, or the shaft turns too slowly to maintain a proper oil film, get assured lubrication protection with Randall's exclusive graphited bearings. They are available in many styles of grooved or plug designs from more than 800 commercial stock size bearings or made to blueprint specifications.

Ask your area distributor for complete information on Randall's complete line of graphited bearings or write direct to the factory.

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BRONZE BUSHINGS
PILLOW BLOCKS
SHEET LUBRICATOR

Randall

GRAPHITED BEARINGS
THRUST WASHERS
SAFETY COLLARS
BRONZE CASTING

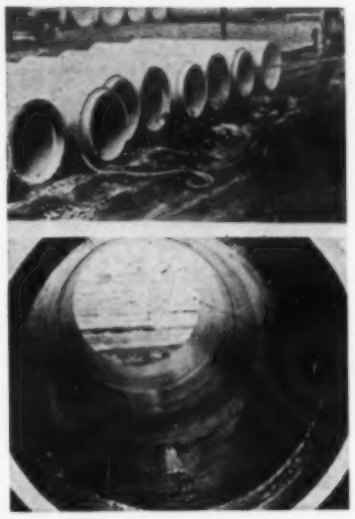
RANDALL GRAPHITE BEARINGS, INC.

1007 S. Greenlawn Avenue, Lima Ohio

For more details circle NED-980 E4 on enclosed inquiry slip

New Processes & Materials

CONCRETE WASTE PIPE
interior is vinyl resin coated



Concrete pipe can be adapted to carry off corrosive oil refinery waste by treating the interior with inert Bakelite vinyl resins. Hydrocarbon residues flow freely through the pipe without affecting the coating. Pipe sections shown in top photo are sprayed with this Rigortex coating before delivery, creating smooth and durable surface shown in bottom photo. Concrete pipe is available in long sections, minimizing number of joints to be sealed and handling labor. Coating made by **Inertol Co.**, Room 11, 480 Frelinghuysen Ave., Newark 5, N. J.

For more details circle NED-981 E4 on enclosed inquiry slip

TOOL STEEL
flat ground low carbon analysis

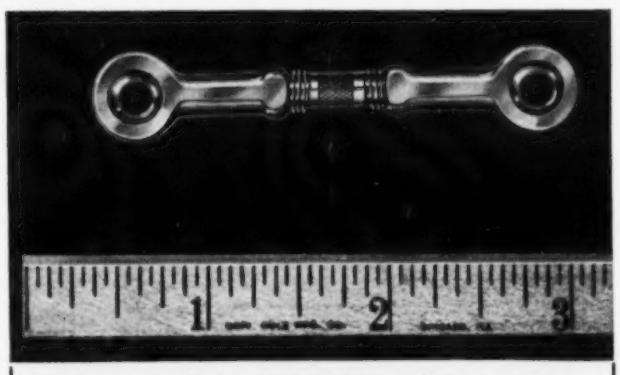
Line of low carbon, flat ground tool steel made from fine-grained silicon-killed steel of forging quality is available in wide range of thicknesses and widths ranging from 1/16 x ½-in. to 1 x 12 in. and in 24-in. lengths. Steel is easily machined to high finishes, has a uniform response to case hardening and good weldability. Made by **Marshall Steel Co.**, P. O. Box 108D, La Grange, Ill.

For more details circle NED-982 E4 on enclosed inquiry slip

THREAD-FREEING COMPOUND
eliminates seizing up to 1200° F

Designed to keep threaded fasteners free under prolonged exposure to high temperatures, Thred-Gard compound eliminates seizing and galling at up to 1200° F. It is nonhardening and retains lubricity after prolonged service. Its use prevents thread damage and allows fittings to be tightened without strain. Compound is available in half-pint, pint and quart cans. Made by **Crane Packing Co.**, Dept. NDC, 1800 Cuyler Ave., Chicago 13, Ill.

For more details circle NED-983 E4 on enclosed inquiry slip



BALL END CONNECTING RODS

For Industrial Applications

MANY industrial applications are found for these precision built connecting rods. Used as machinery linkage or on both single and twin carburetors of any butane or gasoline engine.

Avalon Connecting Rods come equipped with spring lock adjustment or lock nut. Rod ends are furnished in sets with right and left hand threads. Perfect alignment is assured by ball and socket bolt holes. Greatly increases motor efficiency, specially where dual carburetors are used by providing close adjustment.

Sizes: Bolt holes 3/16" thru 5/16".
Lengths from 2⅞" bolt center up.

Priced from $1.50 a Set Up — Quantity Discounts

Write for Folder

AVALON MACHINE PRODUCTS, INC.
2535 E. Imperial Highway, Los Angeles 59, California

For more details circle NED-984 E4 on enclosed inquiry slip

LERMER PLASTIC CONTAINERS . . .
unexcelled for tools and small parts

Package your products in Lermer Plastic durable, handsome containers. They are shatterproof, 75% lighter than glass, available clear or opaque in many colors, can be printed or decorated and are available with metal or plastic closures. Write for complete catalog information and samples. If possible, send along products for particular suggestions.

LERMER PLASTICS, INC.
Pioneers and Pacesetters in Plastic Containers
514 South Ave., Garwood, New Jersey

For more details circle NED-985 E4 on enclosed inquiry slip

HOBBS

COTTER PINS

LOXIT
Extended Prong

HOBLOK
Hammer-Lock Type

Locks itself when hit with hammer!
No bending of prongs required!

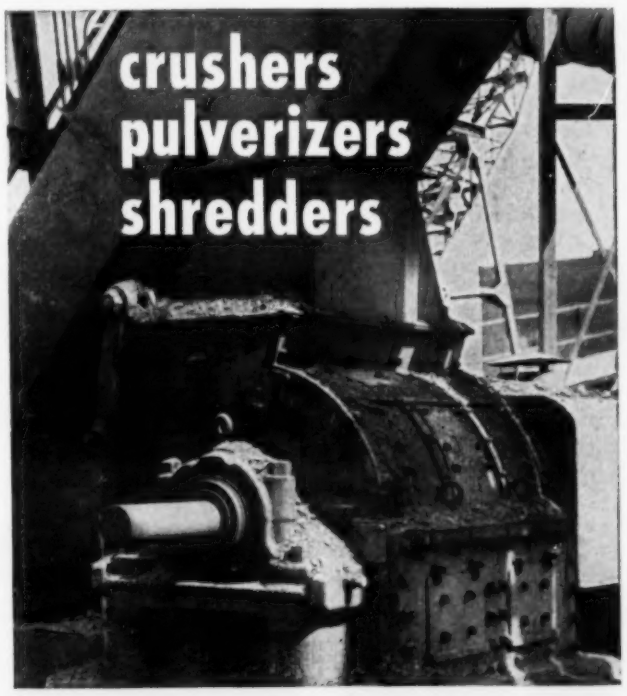
Choose the type that's best for *your* production job! Both are available in steel, brass, stainless steel, and monel.

HOBBS "TANGLE-PROOF" LOCKWASHERS are available in high carbon steel, stainless steels, silicon and phosphor bronze, and all types of platings.

Write now for Hobbs lock washer and cotter pin price lists!

HOBBS MANUFACTURING CO.
Fastener Division
40 SALISBURY ST., WORCESTER 5, MASS.
EST. 1882

For more details circle NED-986 E4 on enclosed inquiry slip



THE JEFFREY MANUFACTURING CO.
Columbus 16, Ohio

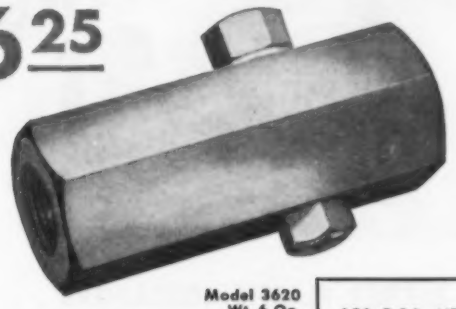
IF IT'S MINED, PROCESSED OR MOVED ...IT'S A JOB FOR JEFFREY!

sales offices and distributors in principal cities

For more details circle NED-987 E4 on enclosed inquiry slip

RIVETT 3/8" flow control air valve

$6.25



Model 3620
Wt. 6 Oz.
3" Length x 1 1/8" Hex.

150 P.S.I. AIR
300 P.S.I.
OIL OR WATER

Meters flow in one direction; allows free flow in opposite direction. Anodized aluminum body; nylon poppet; corrosion-resistant adjusting screw with slotted hex head. Tightening hex nut on opposite end of adjusting screw locks setting.

Call your local Rivett Dealer or write direct.

RIVETT LATHE & GRINDER, Inc., Dept. NED5 Brighton 35, Boston, Mass.

RIVETT FURNISHES A COMPLETE POWER PACKAGE

▲ For more details circle NED-988 E4 on enclosed inquiry slip ▲

"NOT A Single failure of Damascus stainless steel tubing in service"

• Oh, yes, we have made some poor tubing in our time . . . but, the customer never received it—our inspection stopped it.

That's because Damascus makes only one product—stainless steel tubing up to 3" diameter. Every piece of tubing for your order receives undivided attention. Every Damascus employee is a stockholder so he takes extra caution to assure the quality.

From Damascus, you receive top quality stainless steel tubing and preferred attention. When we promise delivery, we mean it.

Try Damascus, the specialists, on your next order for stainless steel tubing. Write today, wire or phone (Transfer, Pa., 6-1500) for prompt attention to inquiry or order.

DAMASCUS TUBE COMPANY
STAINLESS STEEL TUBING AND PIPE
Greenville, Pennsylvania

▲ For more details circle NED-989 E4 on enclosed inquiry slip ▲

New Literature & Catalogs

Ball Bearing Rotary Union

Perfecting Service Co.—All-purpose, ball bearing rotary union now constructed to permit field repair is subject of 16-page bulletin 700. Plain and syphon types are described and specified along with special shafts and threads, flanges and adapters and replacement parts.

▲ For more details circle NED-990 E4 on enclosed inquiry slip ▲

Loom Switch

Arrow-Hart & Hegeman Electric Co., Industrial Control Div.—Type LM Loom switch, a manual, across-the-line starting switch designed for the textile industry, is described and illustrated in 8-page form 5156. Unit is available in size O, three-pole and rated at 2 hp to 600 v ac. It can be used to control single or multiple shuttle looms.

▲ For more details circle NED-991 E4 on enclosed inquiry slip ▲

Self-Aligning Bearings

Worth Mfg. Co., Halfco Bearing Div.—General information and specifications for heavy duty, neck ball and special series of two-piece integral self-aligning bearings are found in 7-page loose-leaf catalog. Material, finish and heat treating data are presented.

▲ For more details circle NED-992 E4 on enclosed inquiry slip ▲

Welding & Cutting Apparatus

National Welding Equipment Co.—All of the major and most frequently used types of welding and flame cutting apparatus are listed, illustrated and briefly described in 36-page catalog CW-19-5. Various kits and accessories are also covered and a list of detailed information brochures is included.

▲ For more details circle NED-993 E4 on enclosed inquiry slip ▲

Cap Screws

Chandler Products Corp.—Fasteners which are representative of the different types and standards made for various industries are featured in 4-page illustrated catalog "Chandler Precision Cap Screws." Automotive, self-locking, connecting rod, AN and special bolts are covered.

▲ For more details circle NED-994 E4 on enclosed inquiry slip ▲

Magnetic Clutches & Brakes

Stearns Magnetic Inc.—A ready reference for figuring the right magnetic transmission equipment for individual applications is provided by 8-page bulletin 226 C. Complete figures, diagrams, dimensions, capacities, horsepower and torque ratings on clutches, brakes and clutch-brake combinations are presented.

▲ For more details circle NED-995 E4 on enclosed inquiry slip ▲

Ideas for Automation

Cambridge Wire Cloth Co.—"Ideas for Automation" in metalworking, food, chemical and ceramic plants with Cambridge woven wire conveyor belts are illustrated in 4-page bulletin 110 of this title.

▲ For more details circle NED-996 E4 on enclosed inquiry slip ▲

Flow Control Valves

A-P Controls Corp.—Standard and custom-built flow control valves for starting, stopping, mixing, blending, metering, measuring or controlling pressure, level, temperature and expansion in heating and air conditioning are illustrated in 4-page folder "Solve These Flow Control Problems." Descriptions cover capacity ranges, connection and orifice sizes, and lifts.

▲ For more details circle NED-997 E4 on enclosed inquiry slip ▲

Industrial Air Tools

Aro Equipment Corp.—76 pages of catalog No. 61 contain illustrated sections on air operated grinders, rotary files, sanders, polishers, wire brush tools, drills and tappers, screwdrivers and nutsetters, hoists, electrode dressers, mixing and power motors, balancers, speed couplers, filters, oilers and accessories. General specifications for each of the air tools are given.

▲ For more details circle NED-998 E4 on enclosed inquiry slip ▲

Viscometer & Its Application

Brookfield Engineering Laboratories Inc.—"Solutions to Sticky Problems" is title of 22-page pocket-size booklet presenting easy-to-read information relative to the Synchro-Lectric viscometer. Piece covers how viscometer works, its sensitivity, effect of viscosity and temperature, rheology or the study of flow, laminar and turbulent flow, recalibrating the viscometer and using it for control.

▲ For more details circle NED-999 E4 on enclosed inquiry slip ▲

What can Multigrip do for you?
Protects your floor and workers too!
A tough steel plate to make floors stronger,
No more repairs and it lasts much longer.
Accident rates will fall way down,
But workers won't . . . they can "go to town":
Traction from risers protects from slip,
No protrusions on which to trip.

USS multigrip FLOOR PLATE

UNITED STATES STEEL CORPORATION, PITTSBURGH
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, CHICAGO
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Sold by leading distributors from coast to coast 4-685A

UNITED STATES STEEL

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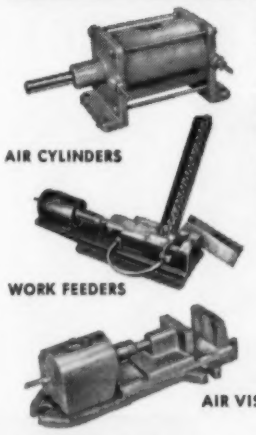
Suggestions for FASTER CHEAPER PRODUCTION

MIDGET AIR CLAMPS (Pneumatic Cylinders)



AIR CYLINDERS
WORK FEEDERS
AIR VISES

New MEAD INDUSTRIAL AIR POWER CATALOG ready

Engineers!
Production Men!
Purchasing Agents!

You will find many valuable suggestions for speeding work, saving your plant time and money in this lavishly illustrated Mead Air Power Catalog! Get your copy. See how Mead-designed air operated devices can be assembled to form low-cost automatic or semi-automatic production setups! Write today.

MEAD SPECIALTIES COMPANY
4114 No. Knox Ave., Dept. N-54-A, CHICAGO 41, ILLINOIS

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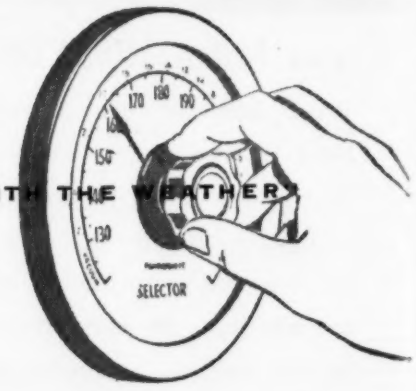
"TUNE IN WITH THE WEATHER"



illinois Selectotherm

Investigate this modern development in automatically controlled heating!—a high vacuum steam heating system with "single dial control" that assures the ultimate in comfort, economy and convenience. Heat supply is balanced against heat loss to provide an even and constant warmth that is always exactly right.

Ideal for schools, hospitals, churches, apartments, commercial and public buildings *of any size*—either new or existing—where boilers are used for low pressure steam heating only—with any type of fuel and any form of mechanical firing device.

Write for Bulletin 540 and learn how Selectotherm reduces fue consumption and saves 20% or more compared to ordinary systems.

ILLINOIS ENGINEERING COMPANY
2039 SOUTH RACINE AVENUE
CHICAGO 8, ILLINOIS

DIVISION OF AMERICAN AIR FILTER COMPANY, INC.

▲ For more details circle NED-1002 E4 on enclosed inquiry slip ▲

FOR COMPLETE PROTECTION

FROM THE WET • GREASE • OILS • ORDINARY ACIDS

TOWER'S FISH BRAND *NEOPRENE

These sturdy, durable, 100% DuPont **NEOPRENE** garments give that extra service to those who require protection from greases, oils, and most acids. There is a TOWER protective garment especially adaptable for every type of industrial activity. We will be glad to recommend the garment which best meets your individual requirements.

*A chemical rubber product of the DuPont Company

For folder of styles and detailed information write Department SF.

NEOPRENE RUBBER

TOWER'S FISH BRAND — A. J. TOWER CO. — TOWER'S ARROW BRAND

24 SIMMONS ST. BOSTON, MASS.

For more details circle NED-1003 E4 on enclosed inquiry slip

UNIT 357 MOBILE CRANE

ALL models CONVERTIBLE to ALL attachments!

• SELF-PROPELLED
• RIDES ON RUBBER
• HAS 1001 USES

Faster material handling — less cost!

The "357" is a typical one-man UNIT crane . . . compact, powerful, works fast at low cost even in cramped space, inside your plant or out in yard . . . great for lifting, loading, unloading, material-handling of steel, pipes, bars, lumber, bulk materials and equipment . . . moving, erecting, dismantling machinery. Easy to operate . . . 360° swing . . . full-vision cab assures complete visibility, an aid to speed and safety. Catalog has complete data. Write for your copy.

UNIT CRANE & SHOVEL CORP.

6607 West Burnham Street • Milwaukee 14, Wisconsin, U. S. A.

A 7831-1/9

For more details circle NED-1004 E4 on enclosed inquiry slip

If your problem involves:

VULCANIZING RUBBER • DEGREASING METALS
BAKING VARNISH • HEAT TREATING LEATHER
DEHYDRATING FOOD • PASTEURIZING FOOD
DRYING LACQUER, INK, PAINT, CERAMICS
GLASS, FIBRE, COMPOSITION OR IF YOUR PROBLEM REQUIRES CONTROLLED HEAT FOR OTHER APPLICATIONS.

And if you now use:

AIR DRYING • GAS, OIL OR ELECTRIC HEAT

You will be amazed by the increased quality control and big savings in money, time and labor when you use INFRALITE RADIANT HEAT.

WITHOUT OBLIGATION, ASK OUR REPRESENTATIVE TO CALL, OR WRITE FOR BULLETIN No. 54

THERMEX Company, Inc. — 535 BERGEN ST., HARRISON, N. J. HU 5-2323

For more details circle NED-1005 E4 on enclosed inquiry slip

New Processes & Materials

SOLDERING FLUX
is fast-working and noncorrosive

Designated No. 8, soldering flux is fast-acting noncorrosive type suitable for electrical and other soldering work. It can be used on copper, brass, terne and tin plate. It is non-ionizable even under high humidity conditions, eliminating both electrical leakage and corrosion. Basically a fortified alcohol and resin flux, it is fast enough to solder on clean steel without pretinning. Flux lists at $4.75 per gallon. Made by **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

For more details circle NED-1006 E4 on enclosed inquiry slip

FLOOR COATING
skidproof and corrosion-resistant

Designed for treating floors where oils, greases and chemicals create safety hazards and maintenance problems, NeoFloor floor coating is skidproof and corrosion-resistant. Grit-like material is anchored in a matrix of resilient neoprene and is bonded to the floor with an adhesive primer. It can be used on concrete, wood or metal floors. Coating is highly resistant to fumes; acids, alkalies, salt solutions and solvents at temperatures up to 220° F. It is waterproof and is easily cleaned with standard detergents or cleaners. Made by **Pennsylvania Salt Mfg. Co.**, Corrosion Engineering Products Dept., 932 Widener Bldg., Philadelphia 7, Pa.

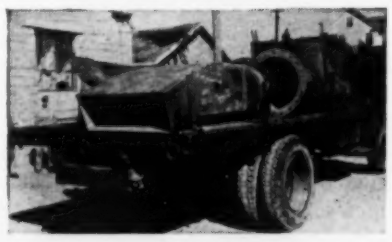
For more details circle NED-1007 E4 on enclosed inquiry slip

NICKEL CLAD STEEL PLATE
with cladding on one or both sides

Mild steel plates clad with electrodeposited pure nickel are being produced in thicknesses ranging from 1/8 to 3/4-in. Cladding can be on either one or both sides and is up to 0.020-in. thick or more. The electrodeposition is permanently bonded to the steel, and is ductile and pore-free. Lectro-Clad plates in sizes up to 8 x 20 ft are suitable for fabrication into storage tanks, chemical processing vessels and other types of equipment where corrosion or contamination are problems. Plates will withstand heating, forming, bending, welding and other processes without damage. Made by **Bart Mfg. Corp.**, 232 Main St., Belleville 9, N. J.

For more details circle NED-1008 E4 on enclosed inquiry slip

VINYL COATINGS
protect against abrasion, corrosion



Industrial equipment can be given protection against abrasion and corrosion by application of Magic-Vulc polyvinyl chloride coatings. Application is by brush, spray gun or dipping on metal, wood, concrete, fabric and other surfaces. Vinyl resin-pigment-solvent and vinyl plastisol types are offered. They protect against corrosive action of chemicals, mildew, fungi and salt atmospheres and can be used as electrical insulators and dielectrics. Materials will not chip or crack and are flexible, easily cleaned and available in bright colors. Photo shows two sections of fume ducts with interior coatings. Made by **Magic Chemical Co.**, Dept. N122, 121 Crescent St., Brockton 2, Mass.

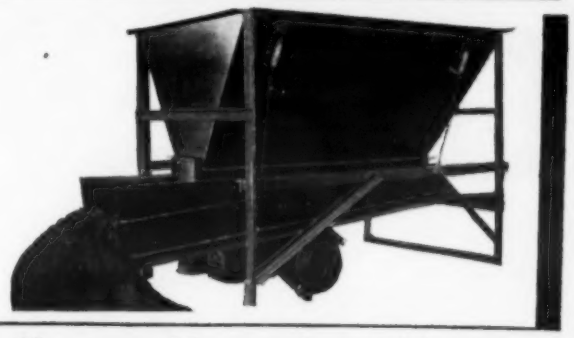
For more details circle NED-1009 E4 on enclosed inquiry slip

Improve Your Operating Efficiency, Quality and Profits with these LAST WORD Metal-Working Products!

LAST WORD sales company

18500 MT. ELLIOTT (Dept. E) • DETROIT 34, MICH.

For more details circle NED-1010 E4 on enclosed inquiry slip



If you use bin-stored materials you can handle them better with a Simplicity Os-A-Veyor type bin feeder

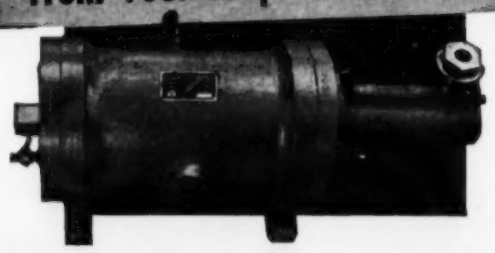
If you move anything that can be stored in a bin, chances are a Simplicity Os-A-Veyor type bin feeder will cut handling costs and speed up your operations. Simplicity Bin Feeders practically eliminate bridging and stoppage because they feed from the full length of the bin—materials will flow as you need them. Simplicity bin feeders are ideal, too, for storing and moving materials that are improved by tempering. Simplified power and operating mechanism keeps maintenance costs low, makes servicing easy. Write us today for complete information.

Simplicity ENGINEERING CO., DURAND, MICH.

101

For more details circle NED-1011 E4 on enclosed inquiry slip

2000...6000 PSI HYDRAULIC PRESSURE From Your Shop Air Line



With this WATSON-STILLMAN Double Acting Air Engine Pump

A compact, lightweight hydraulic pump for many applications:

- For Hydrostatic testing
- As a pumping unit for all types of hydraulic service
- To operate hydraulic jacks or machinery
- To fit your special hydraulic applications

Simply connect the pump to your shop air line or field compressor. Operates on pressures from 50 to 150 psi.

Write today for Bulletin A-5

WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
Roselle, New Jersey

2-A

For more details circle NED-1012 E4 on enclosed inquiry slip

Maintain Floors With Greatest of Ease

USE NEW 1954

UNICO

FLOOR MACHINES

Perfectly Balanced • Easier Operation • Better Efficiency • Greater Value • 12 to 20" BRUSH SIZES

The new easy to use Unico 1954 models are packed with features that insure top efficiency, top value, lower operating costs. Unequalled for scrubbing all types of floors sparkling clean. Any one can do an expert job. Quickly convertible for all wet scrubbing operations. Shampoo rugs and carpets right on the floor. Interchangeable attachments permit waxing, polishing, sanding, buffing, steel-wooling, all with the same machine. Supplied in 12", 13", 15", 17" and 20" brush sizes. Powerful vacuum equipment for wet and dry pick-up also available. Send for details now!

UNITED FLOOR MACHINE CO., Inc.
7719 South Chicago Ave., Chicago 19, Illinois

▲ For more details circle **NED-1013 E4** on enclosed inquiry slip ▲

Asbestos Gloves for HOT Jobs

Handle hot things with Safety. Wear Industrial's famous No. 200-14 asbestos gloves. Made of close woven 2½ lb. per square yard Underwriters Grade asbestos cloth that resists burning. Big, roomy cut; airy and comfortable. All seams double stitched. One-piece construction from tip to top with no seams at wrist or wearing edges to burn or pull out. Made lined or unlined. Many styles of gloves and mittens, both plain and leather reinforced. Over 40 years experience in designing and manufacturing a complete line of dependable Safety Apparel. Write for free catalog.

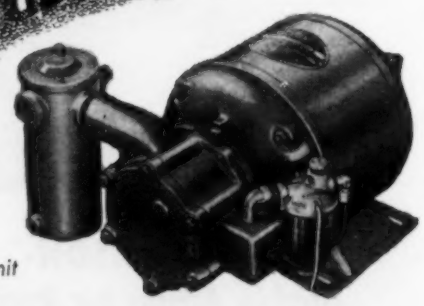
To be sure of the Genuine — Steel-Grip INDUSTRIAL Safety Apparel — Demand this Trade Mark

INDUSTRIAL GLOVES COMPANY
A Corporation
1522 Garfield Street, Danville, Illinois
(In Canada: Safety Supply Company, Toronto)

▲ For more details circle **NED-1014 E4** on enclosed inquiry slip ▲

MOTOAIR

VACUUM PUMP



COMPACT!

motor and pump in ONE integral unit

Extremely compact design makes Motoair ideal for any machines where sustained or intermittent vacuum is required—also for Laboratory work. Visible, automatic, circulating lubricating system. Made in several sizes.

823. *Send for Catalog details . . .*

NEW JERSEY MACHINE Corporation
FACTORY SALES AND SERVICE BRANCHES
CHICAGO CINCINNATI LOS ANGELES
1550 WILLOW AVENUE, HOBOKEN, N. J.

▲ For more details circle **NED-1015 E4** on enclosed inquiry slip ▲

New Literature & Catalogs

Automatic Press Unloading Machines

Sahlin Engineering Co.—Various designs of the Iron Hand automatic unloading machines for presses are described and illustrated in 16-page brochure. Swinging arm and floor-type machines are included as are six designs of special-purpose gripping jaws. Machine applications from the automation angle are considered in booklet.

▲ For more details circle **NED-1016 E4** on enclosed inquiry slip ▲

Metal & Fiber Washers

H. K. Metal Craft Mfg. Co.—Manufacture and availability of standard and special metal and fiber washers are considered in 16-page booklet. Data on general washer characteristics, tolerances and facilities for meeting individual requirements are given. Standard stock washers are listed along with existing die sizes for producing more than 30,000 types and sizes.

▲ For more details circle **NED-1017 E4** on enclosed inquiry slip ▲

Barrel Finishing

Abbott Ball Co.—8-page illustrated brochure describes barrel finishing equipment and methods using redesigned vertical barrel machine. In addition to conventional balls, other shapes of finishing materials are also discussed in relation to particular jobs.

▲ For more details circle **NED-1018 E4** on enclosed inquiry slip ▲

Controls & Resistors

Clarostat Mfg. Co.—Standard controls and resistors for radio and electronic equipment as well as C-line and industrial-type controls are covered in illustrated catalog No. 54. Dimensional drawings, prices and other data are given.

▲ For more details circle **NED-1019 E4** on enclosed inquiry slip ▲

Scaffolding Selection

Patent Scaffolding Co.—8-page illustrated bulletin G-205R comprises a guide on selection of ladders and scaffolds for plant maintenance operations. Types of equipment suitable for painting and cleaning, electrical work and repair, general repair and maintenance and special jobs are considered.

▲ For more details circle **NED-1020 E4** on enclosed inquiry slip ▲

Tubular Electric Heaters

Turbine Equipment Co., Hynes Electric Heating Div.—Described and illustrated in 4-page bulletin 202 are component parts of tubular electric heaters for heating heavy oils and viscous liquids in tanks, pipe lines and other applications. Operating comparisons are made.

▲ For more details circle **NED-1021 E4** on enclosed inquiry slip ▲

Drop Forging & Forgings

Billings & Spencer Co.—Brief description of how drop forgings are made is found in the 8 pages of illustrated booklet DF 1153. Company facilities for producing the forgings and a brief company history are also included.

▲ For more details circle **NED-1022 E4** on enclosed inquiry slip ▲

Pressure Vessel Doors

Blaw-Knox Co., Process Equipment Dept.—"Quick Opening Doors for Pressure Vessels" is title of 8-page illustrated bulletin 2435 which describes doors that can be opened or closed in seconds. They can be applied to vertical and horizontal units and range in size from 3 to 12 ft. Use can be at temperatures up to 400° F and pressures as high as 300 psi.

▲ For more details circle **NED-1023 E4** on enclosed inquiry slip ▲

Beltings

Line of transmissions, conveyor and elevator belting is described, illustrated and detailed as to construction in 28-page catalog. Each product's specifications and recommended use are given. Section is devoted to formulas and rules used in estimating horsepower requirements for the belting. Request on company stationery from Boston Woven Hose & Rubber Co., Box 1071, Boston 3, Mass.

▲ For more details circle **NED-1024 E4** on enclosed inquiry slip ▲

Carton Stapling Machines

International Staple & Machine Co.—Center-slotted cartons can be closed at both top and bottom simultaneously or separately by the Staple Queen semiautomatic packaging machine described in 8-page illustrated booklet Q-501. Specifications on carton size, capacity, adjustments, number of closures per hour and safety devices are included.

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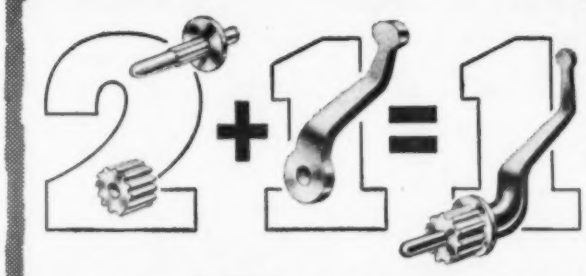

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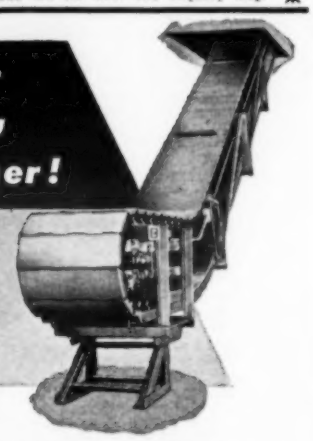

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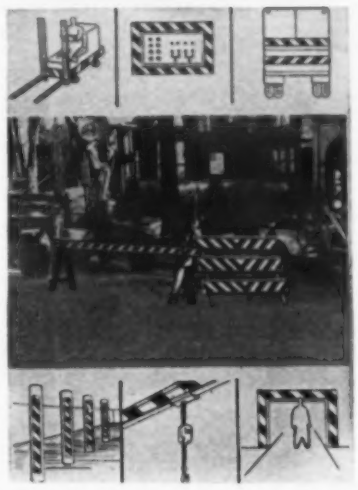

Yellow and black, black and white and red and white striped self-sticking warning tapes are available for application to dangerous equipment and in hazardous areas. Called Brady Warning Stripes, they can be applied to any clean, dry surface on barricades, low or narrow aisles, elevator gates, pillars, electrical apparatus and trucks. Tape is made in rolls of 1, 1½, 2 and 3-in. widths. Three materials, all self-sticking, are offered: acetate plastic for indoor applications; polyvinyl plastic for outdoor use and where dirt, grease, oil and solvents are prevalent; and Scotchlite reflective material. Made by **W. H. Brady Co.**, Dept. NED, 727 W. Glendale Ave., Milwaukee 12, Wis.

For more details circle NED-1032 E4 on enclosed inquiry slip

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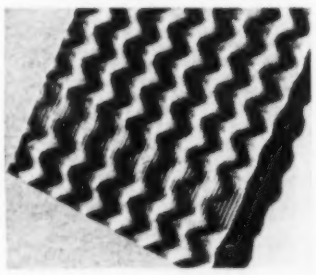
Physical characteristics previously available only in wrought steels are possessed by high strength powder metal parts made from alloy steels. Known as grade Z-2, typical series provides parts having an ultimate tensile strength of 115,000 lb per square inch and hardness of Rockwell C30 after molding and heat treating. Such parts as gears, cams and rollers can be made for heavy duty service. Made by **Keystone Carbon Co.**, 2035 State St., St. Marys, Pa.

For more details circle NED-1033 E4 on enclosed inquiry slip

CUSHIONING MATERIAL is crimped fiber single sheet type



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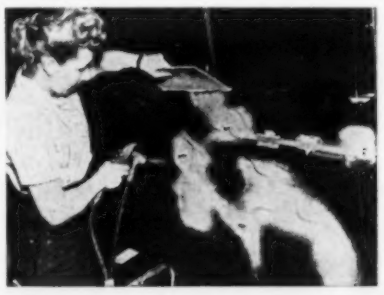
For more details circle NED-1034 E4 on enclosed inquiry slip

WEB COATING SEALER bridges holes up to 1 in. across



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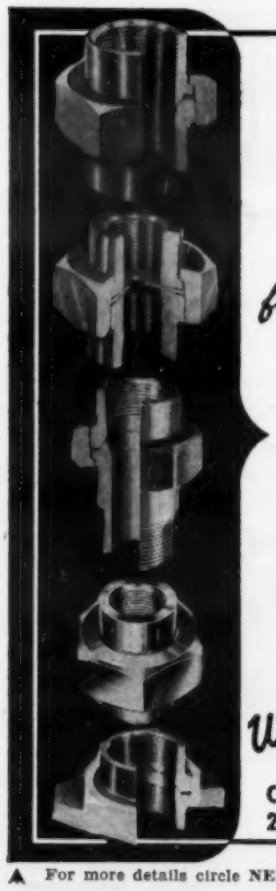

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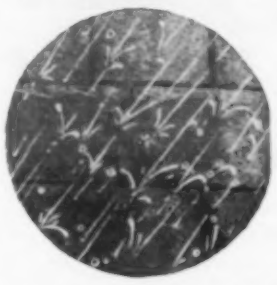

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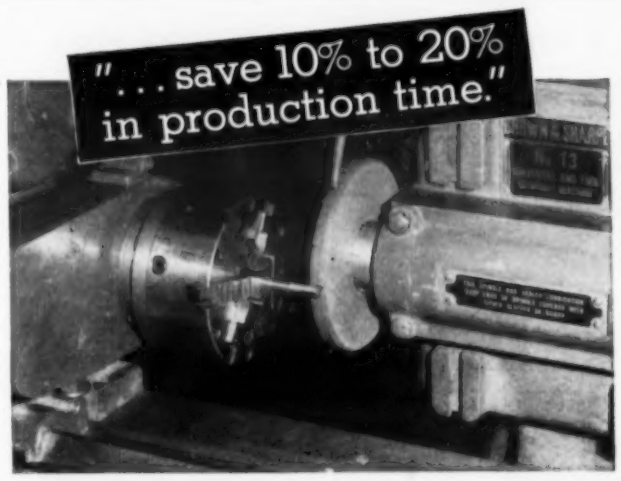

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Big News from Stearns for makers and users of FHP motors

NOW! FOR THE FIRST TIME—MAGNETIC DISC BRAKES FOR MOTORS FROM 1/20 TO 1/3 HP. Stearns New 40 Series Brake*

- Meets new NEMA frame standards in the 1/20 to 1/3 hp. range.
- Only 5 in. in diameter, less than 3½ in. long.
- Has torque range of from 6 lb. in. to 1 lb. ft.
- Mounts on Standard NEMA C end bell for motor frames 42-C and 48-C.
- Extends advantages of magnetic disc brakes to wide range of small motor applications.

NEW! MAGNETIC DISC BRAKES FOR RE-RATED MOTORS — 1/6 TO 2 HP. Stearns New 50 Series Brake*

- Meets new NEMA frame standards in 1/6 hp. to 2 hp. range.
- Is available in four torque ratings, 1½, 3, 6, 9 lb. ft., mounts on fractional hp. motor frames 56-C and 66-C — integral hp. motor frames 182, 184.
- Takes less than one-half space previously required.

*Patent No. 2620901 — 12-9-52

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STEARNS MAGNETIC, INC.
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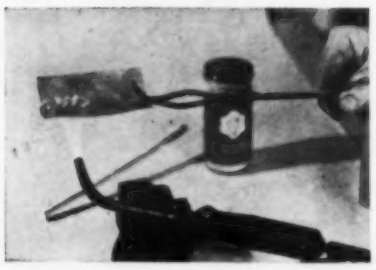
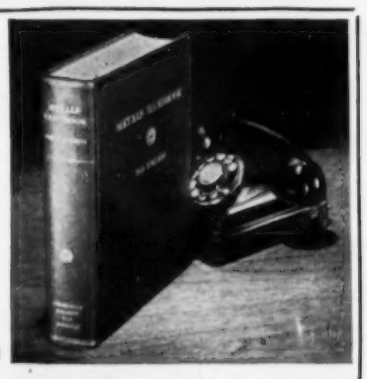
ALL METAL LIQUID SOLDERING FLUX



New liquid aluminum soldering flux makes possible sweating on aluminum, stainless steel, monel, copper, brass, steel or any combinations of same. The newly developed liquid chemical actually breaks the surface oxide on all types of aluminum so that a sweat job is possible in the same manner as ordinary flux on the common metals. Called Liquid ASMC Flux it makes possible the soldering together of such dissimilar metals as stainless steel to aluminum or any combinations of the above metals to aluminum or each other. When used in combination with Farrelloy All Metal Solder the Flux eliminates the electrolytic action between dissimilar metals so that a permanent bond, highly resistant to corrosion is obtained. ASMC Flux makes possible the use of induction heat as well as torch or iron. Production jobs using induction heat are now being accomplished putting two brass studs on Aluminum Name Plates at the rate of 250 per hour. Same flux when used with Farrelloy Solder is equally effective on filling in blow holes in aluminum castings, sweating name plates on cast iron, and many other jobs. ASMC Flux is priced at $3.50 per pound, fob Philadelphia. Farrelloy Solder $2.00 per pound, fob Philadelphia (14 bars to the pound). Write **Farrelloy Company, Dept. NED**, 1246 North 26th St., Philadelphia 21, Pa. *Advt.*

For more details circle NED-1046 E4 on enclosed inquiry slip

The Metals Handbook



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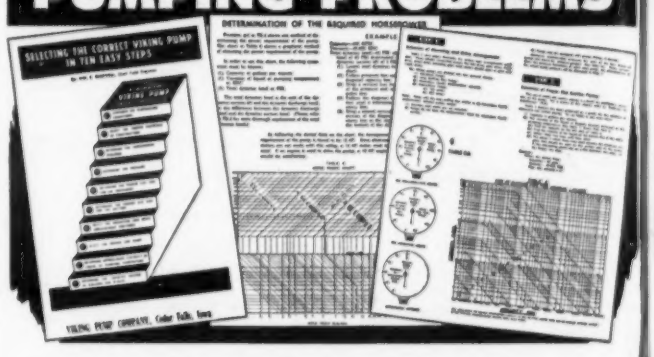

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